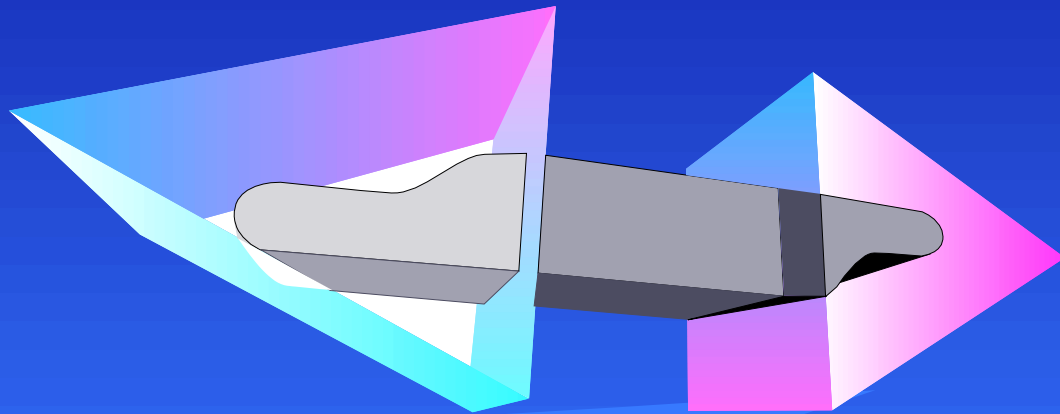
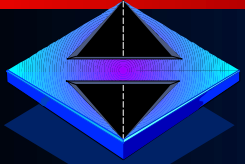


Median Handbook

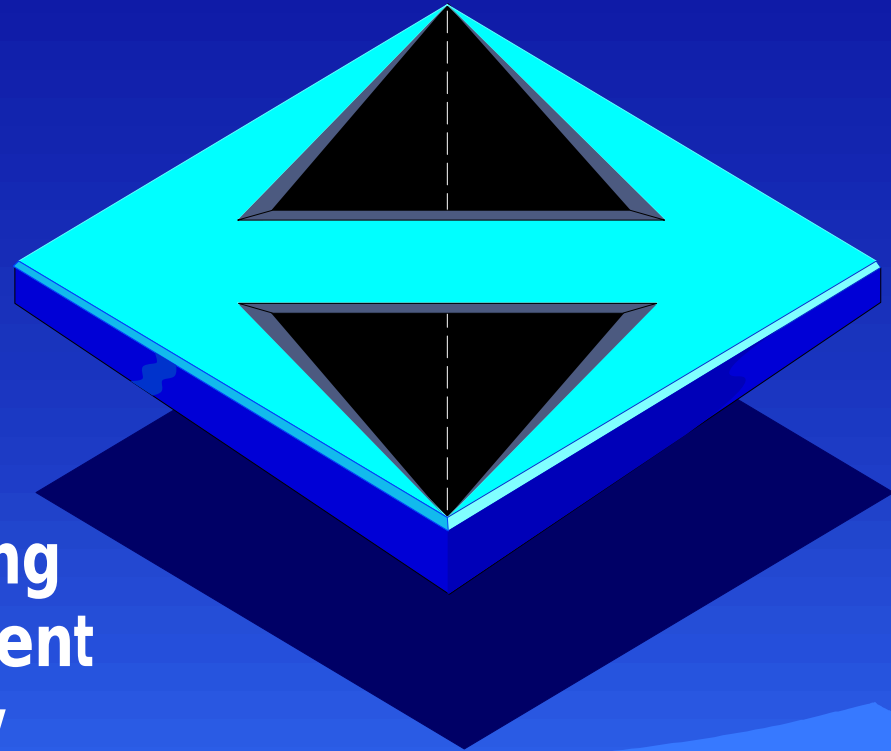


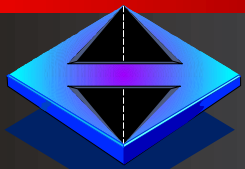


What is

Access Management?

Access Management
is the process of managing
access to land development
while preserving capacity
and improving safety





WHAT IS **Access Management**?

The control and regulation
of the spacing and design of:

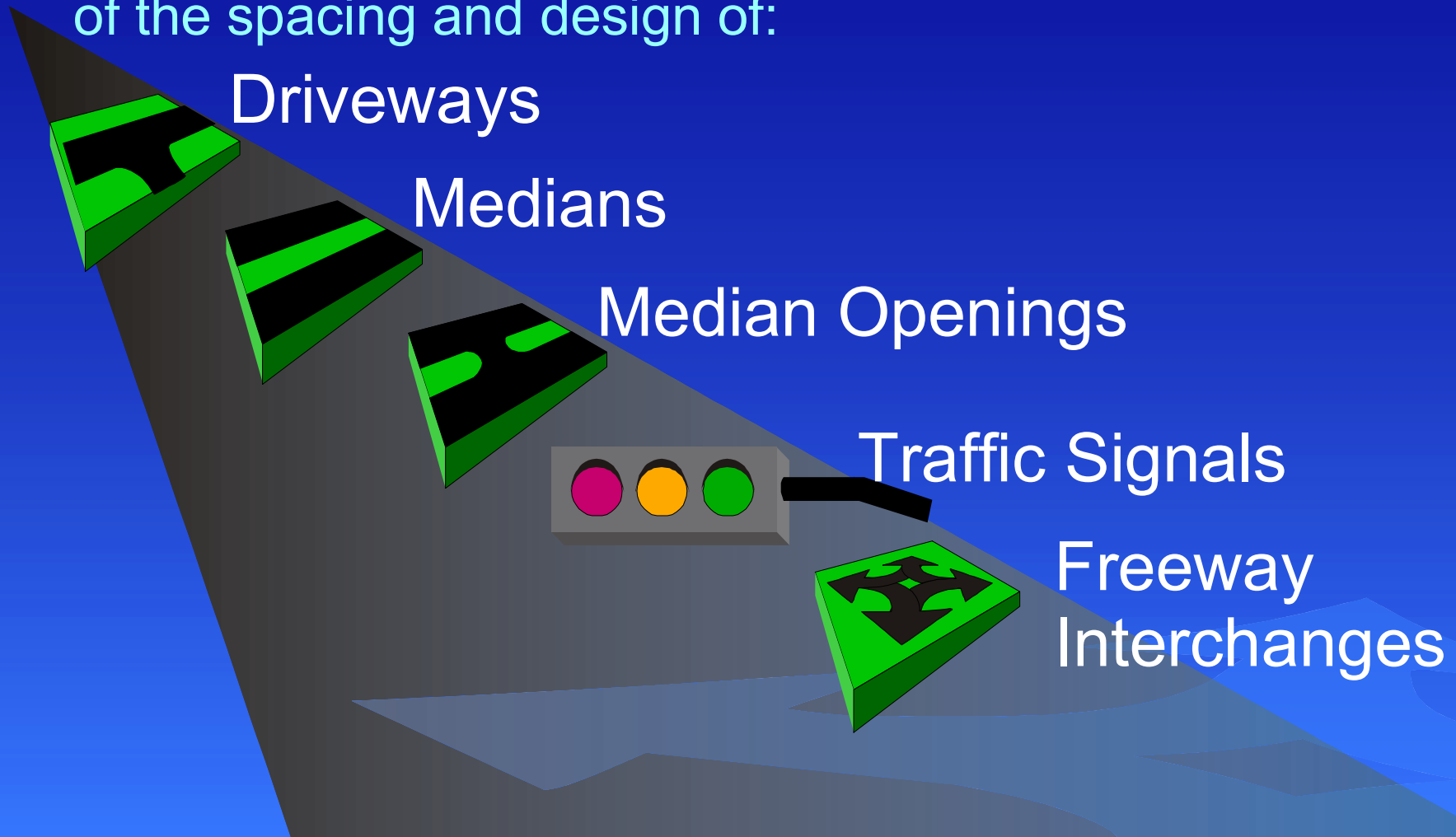
Driveways

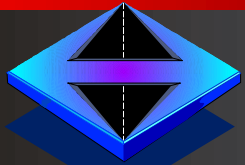
Medians

Median Openings

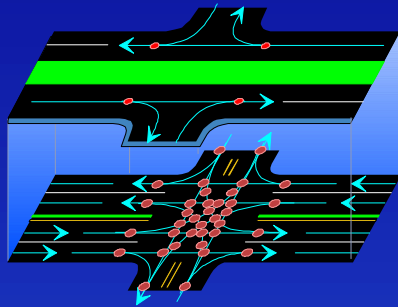
Traffic Signals

Freeway
Interchanges

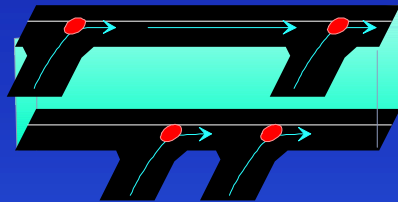




WHAT ARE THE GOALS OF *Access Management*?



Limit the number of conflict points

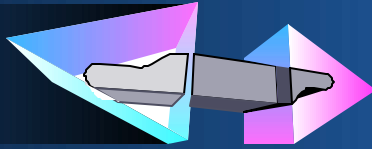


Separate the conflict points

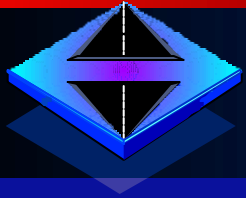


Remove turning vehicles and queues from through movements

CHAPTER 1



INTRODUCTION AND OVERVIEW OF MEDIANS AND THEIR BENEFITS



What are the Benefits of Medians



Safety

- Fewer / less severe accidents
- Less auto / pedestrian conflict



Efficiency

- Higher levels of service
- Less stop and go traffic



Aesthetics

- More room for landscaping and pedestrians
- More attractive corridors
- Less asphalt

Well planned
with system
of service
roads

Class	Medians	Connection		MedianOpening		Signal
		>45mph	≤45mph	Directional	Full	
	GENERALLY DEVELOPING OR UNDEVELOPED					
➔ 2	Restrictive w/ Service Roads	1320	660	1320	2640	2640
3	Restrictive	660	440	1320	2640	2640
4	Non-Restrictive	660	440			2640
	GENERALLY DEVELOPED					
5	Restrictive	440	245	660	2640/1320	2640/1320
6	Non-Restrictive	440	245			1320
➔ 7	Both Median Types	125		330	660	1320

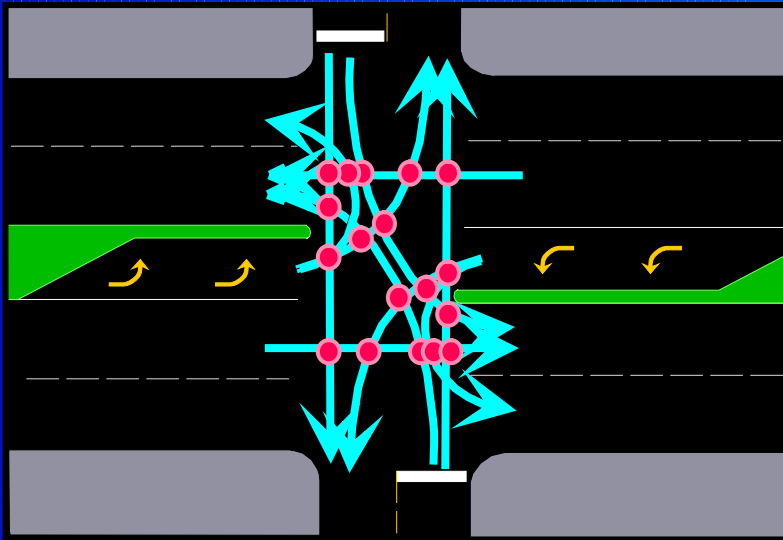
Essentially
the same
except for
medians

Essentially
the same
except for
medians

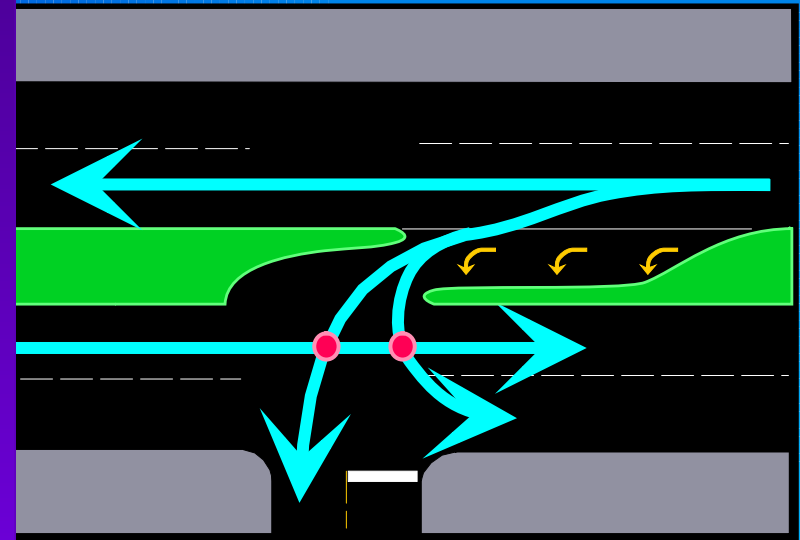
The Urban/
Suburban
Strip



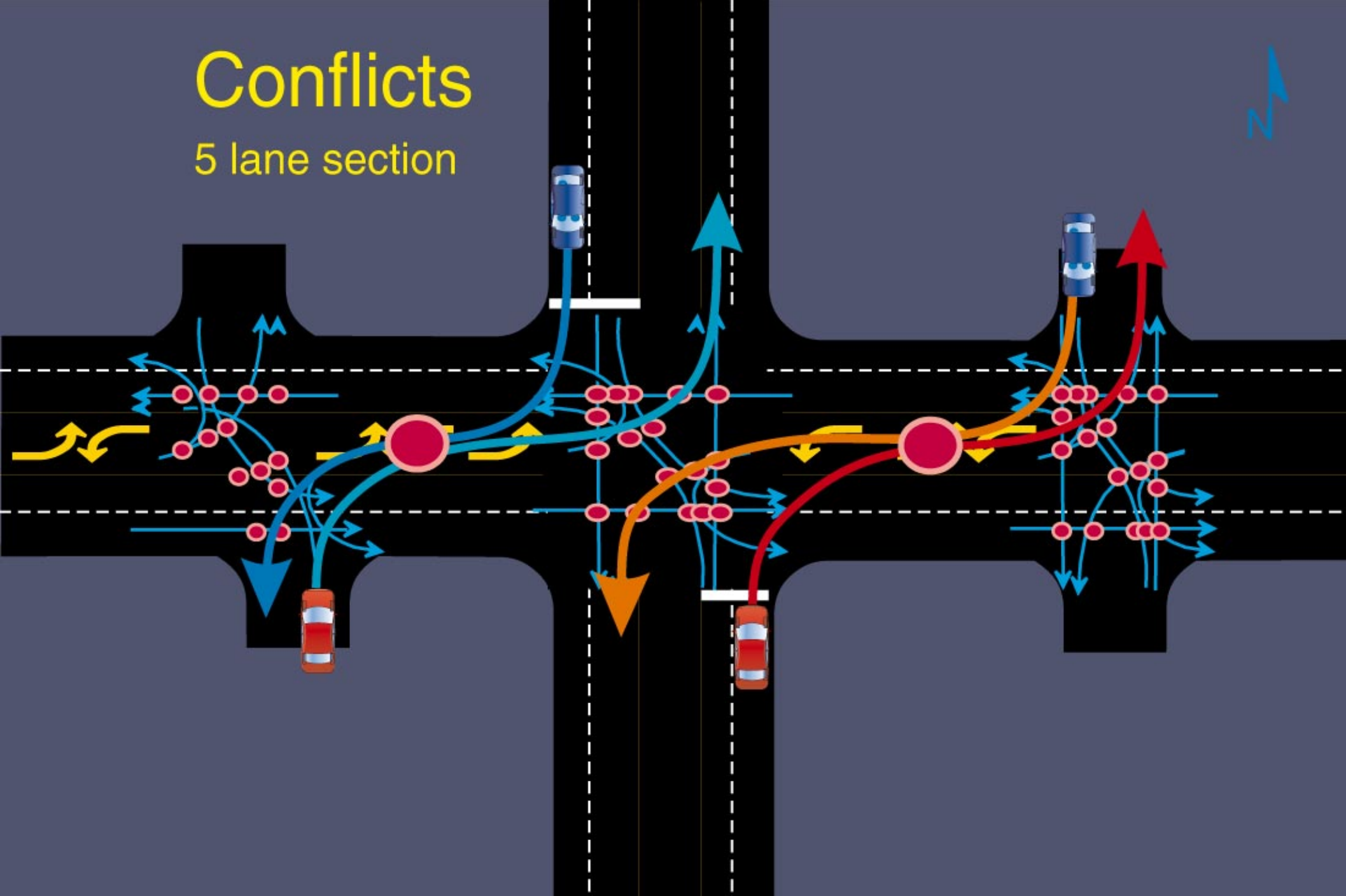
Why Directional Openings?

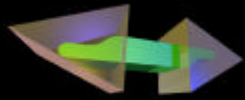


**Reduces
Conflicts**

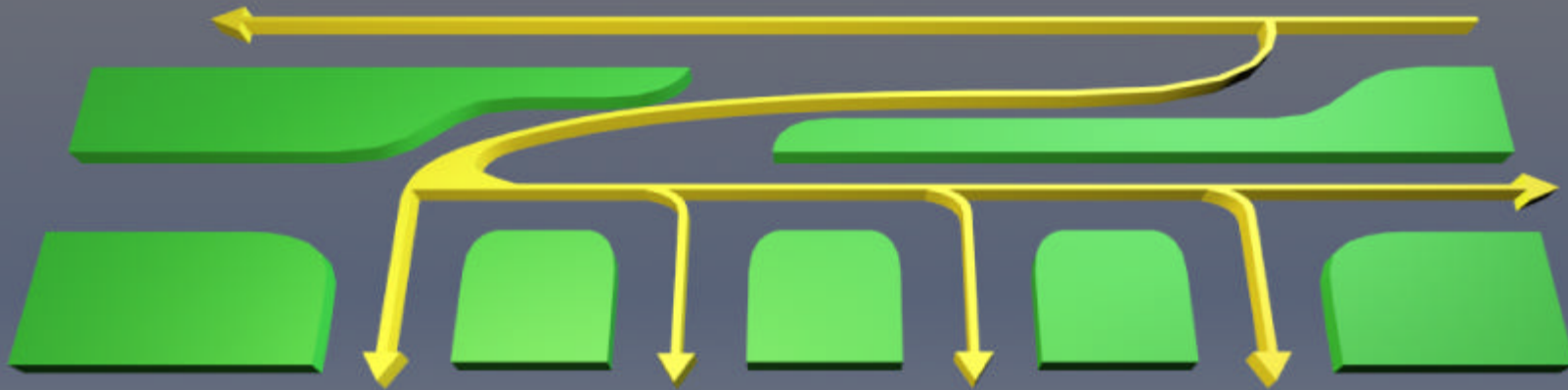


5 lane section

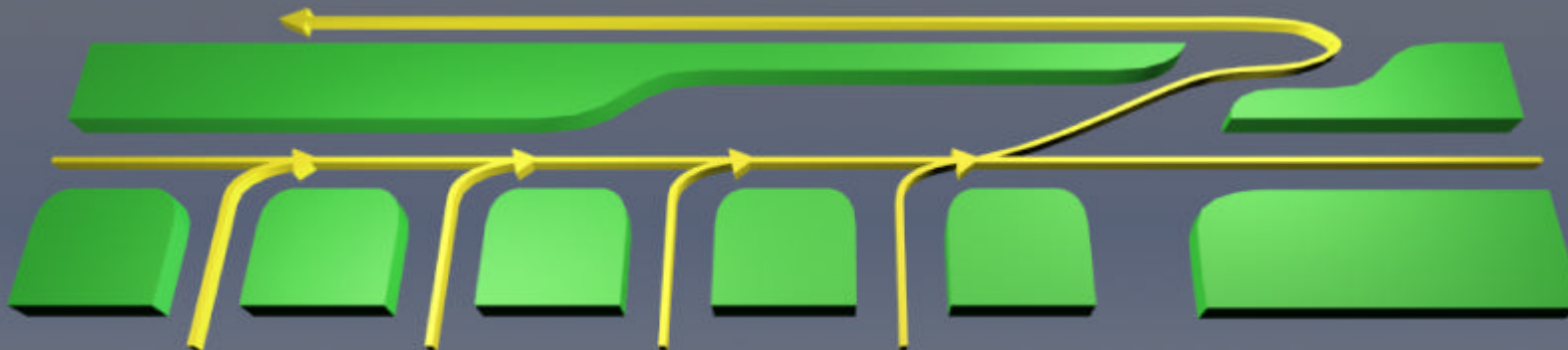




What's so good about directional median openings?



Serve multiple locations







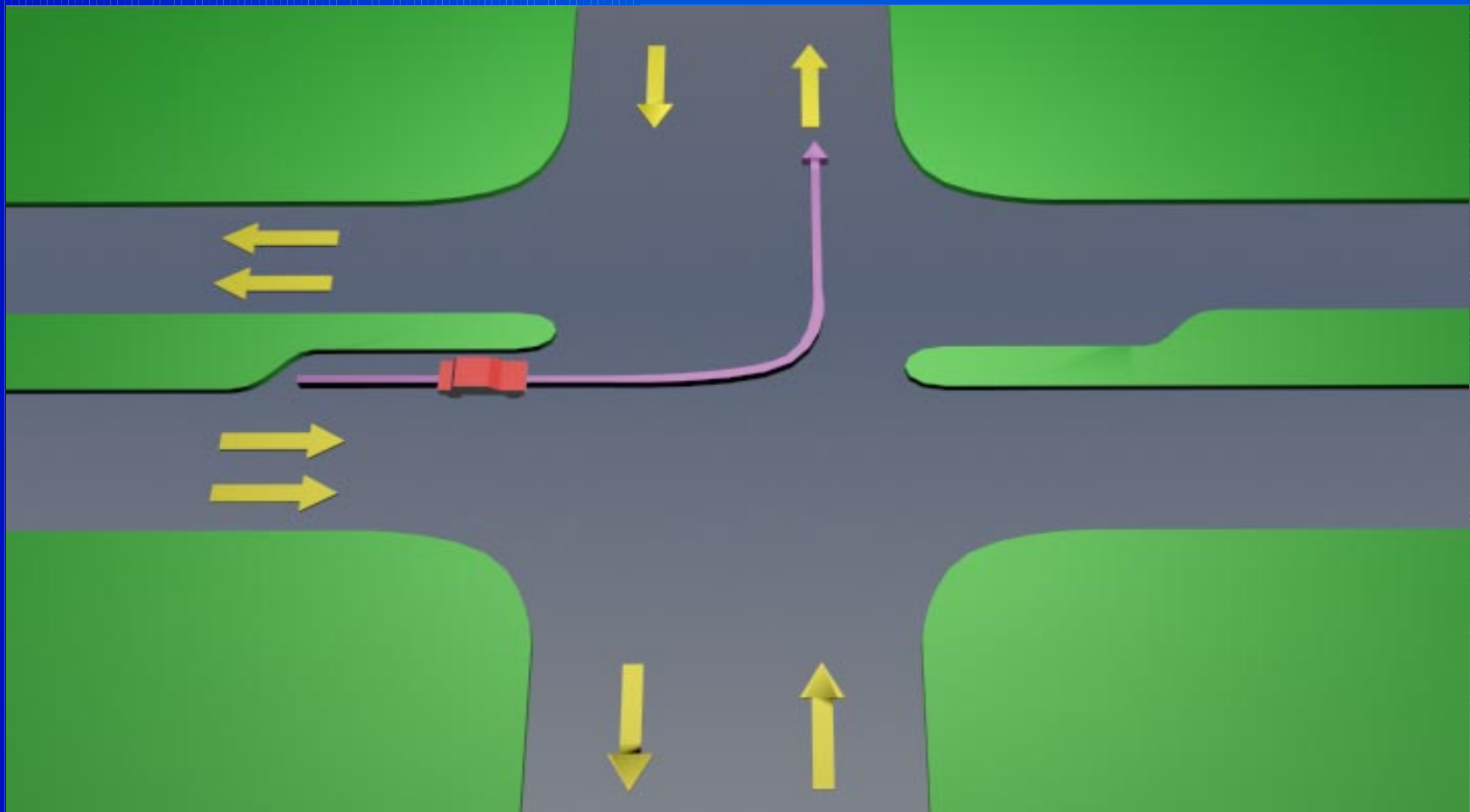
11 20 '96





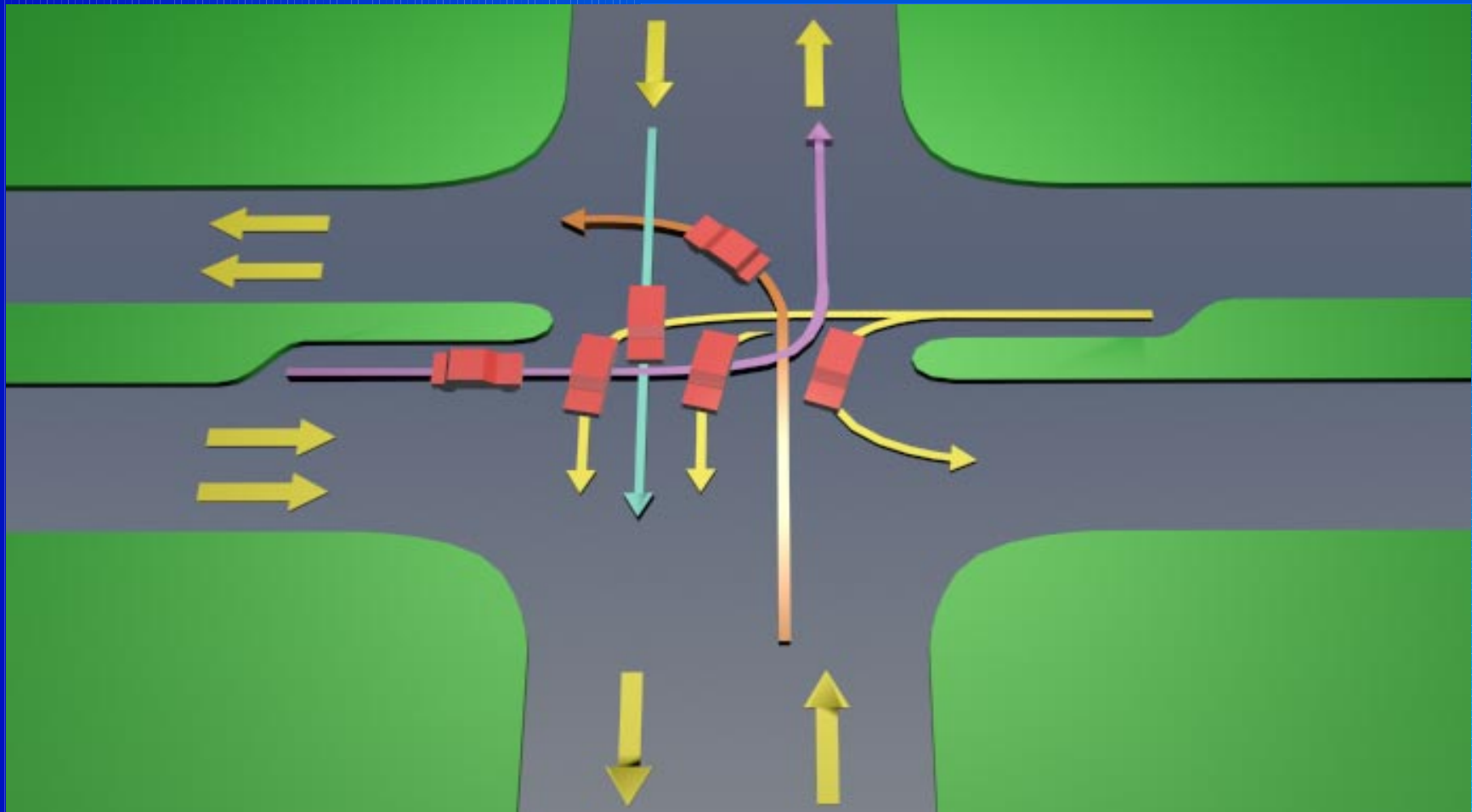


What can go wrong at full openings ?





**What can go wrong
at full openings ?**





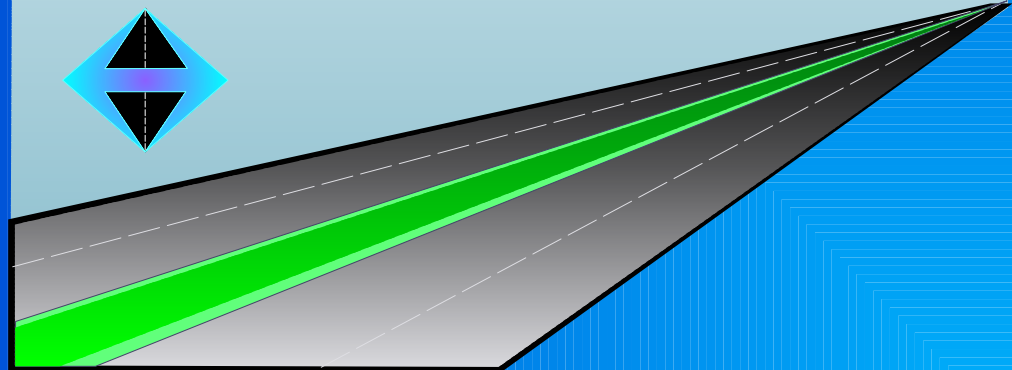
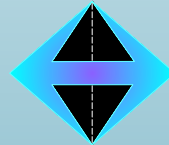


Multilane Facility Median Policy

The FDOT has adopted a policy of designing raised medians for all new or reconstructed multilane highways with speeds above 40mph

Multilane Facility Median Policy

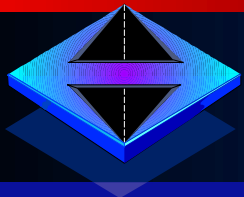
All multilane facilities shall be designed with a raised or restrictive median except four-lane sections with design speeds of 60km/h (40mph) or less. Facilities having design speeds of 60km/h (40mph) or less are to include sections of raised or restrictive median for enhancing vehicular and pedestrian safety, improving traffic efficiency, and attainment of the standards of the Access Management Classification of that highway section.



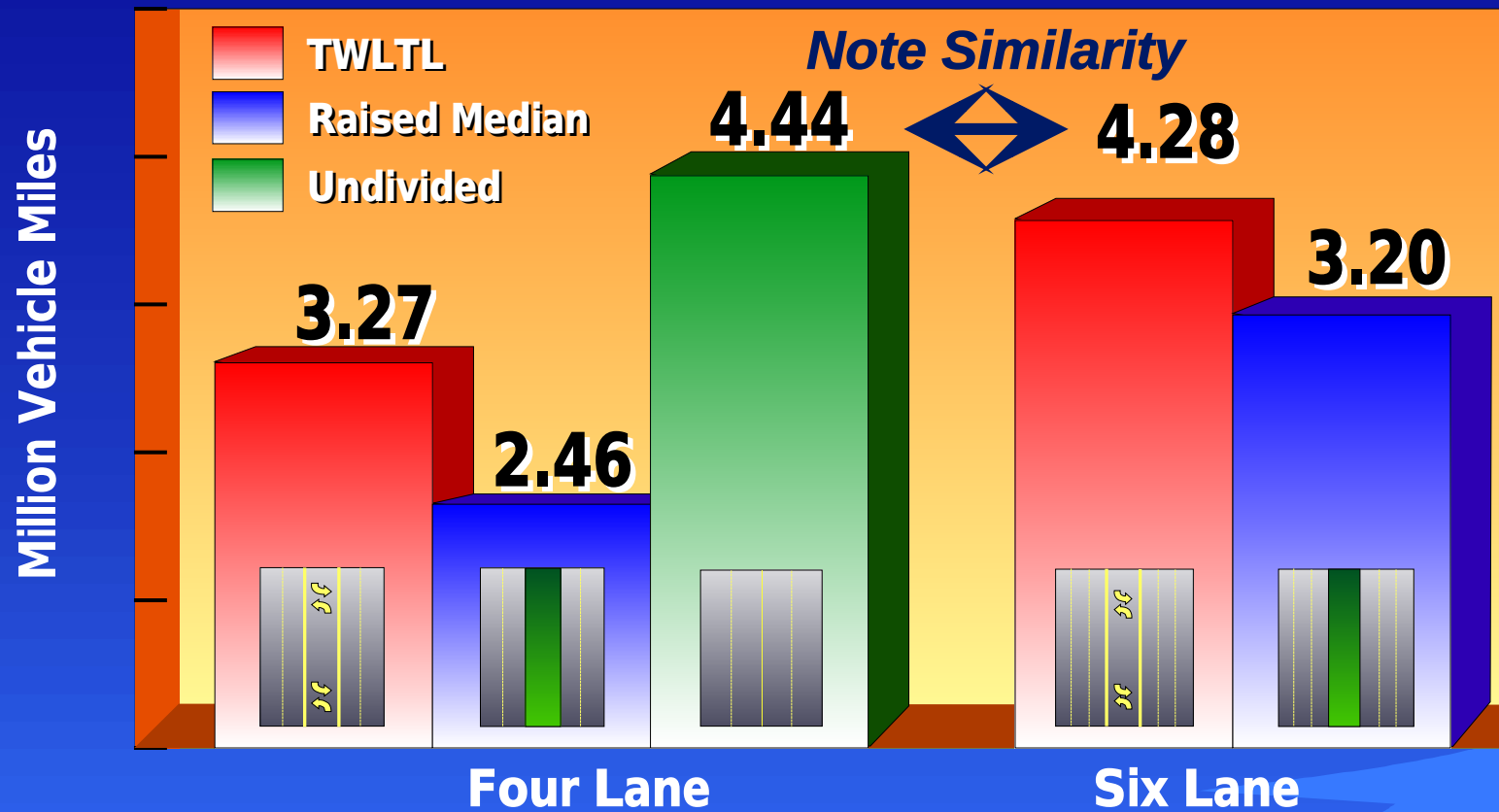




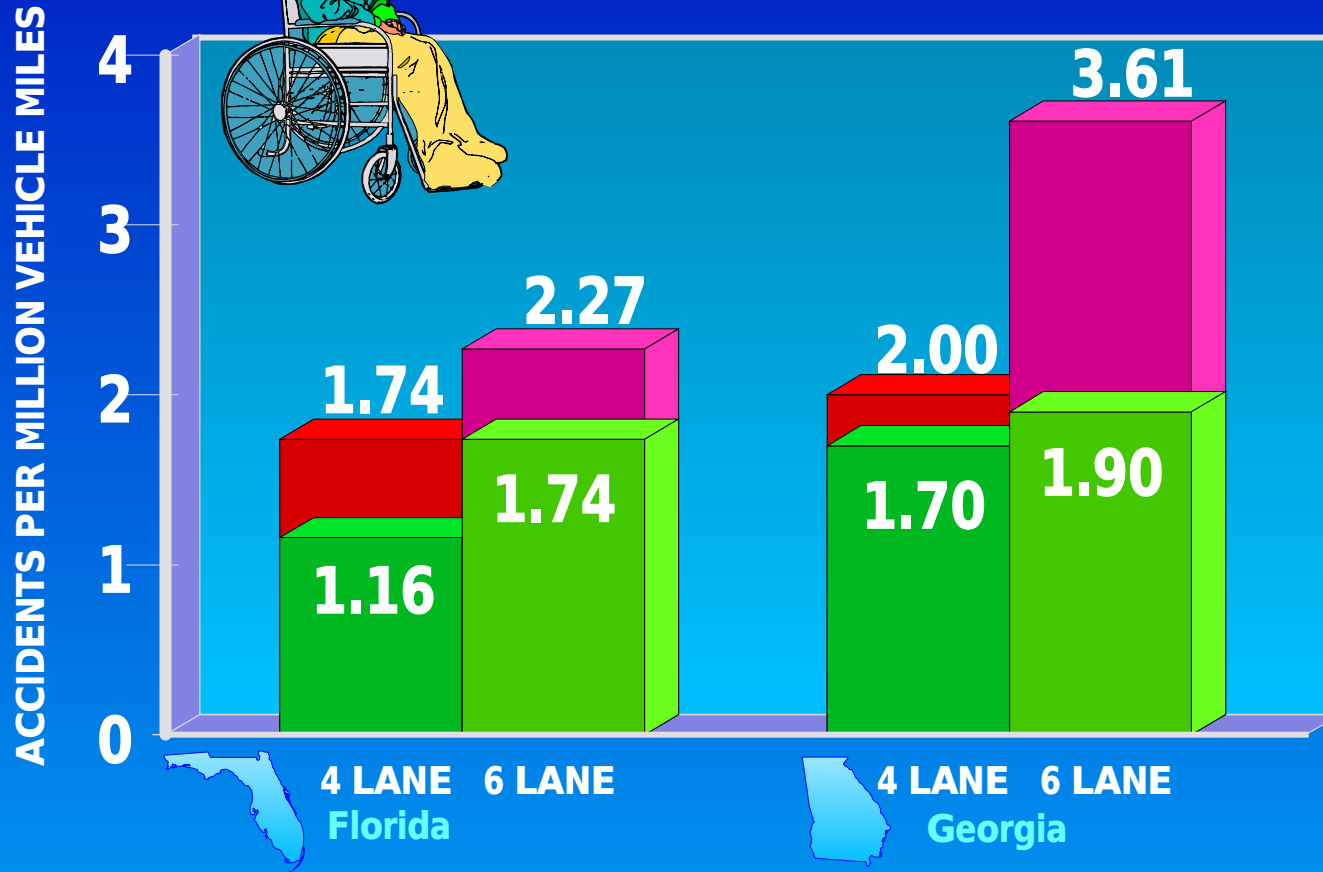




Crash Rates for Median Treatments



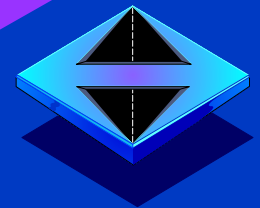
Injury Accidents

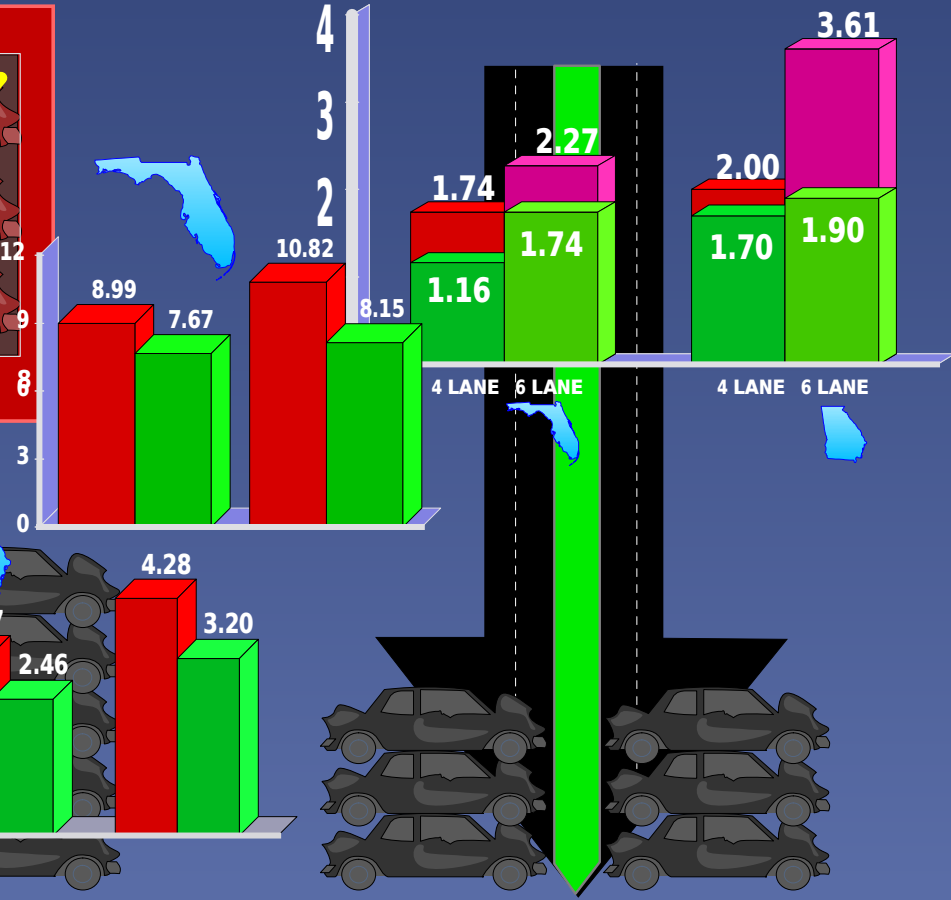
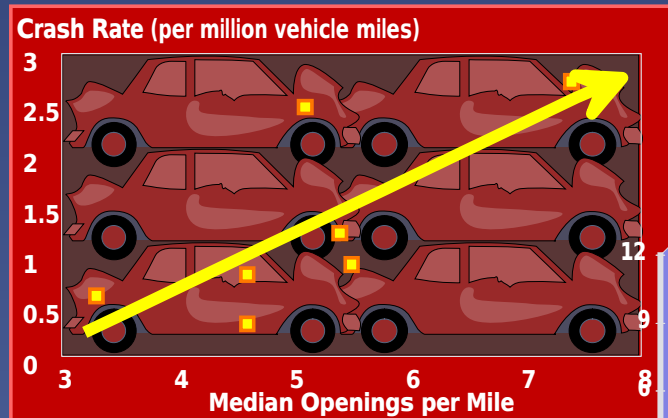


TWLTL

Raised Median

SOURCE: FL - Long, Gan, & Morrison 1993
GA - Squires & Parsonson TRR 1239

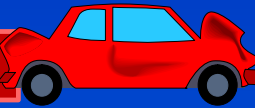
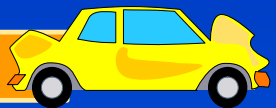




Don't these studies really just
show that **DEMAND** for left turns
is what affect safety ?

NO!

Effects of Median Reconstruction on Two South Florida Arterials

Accident Rates: **Before**  **After** 



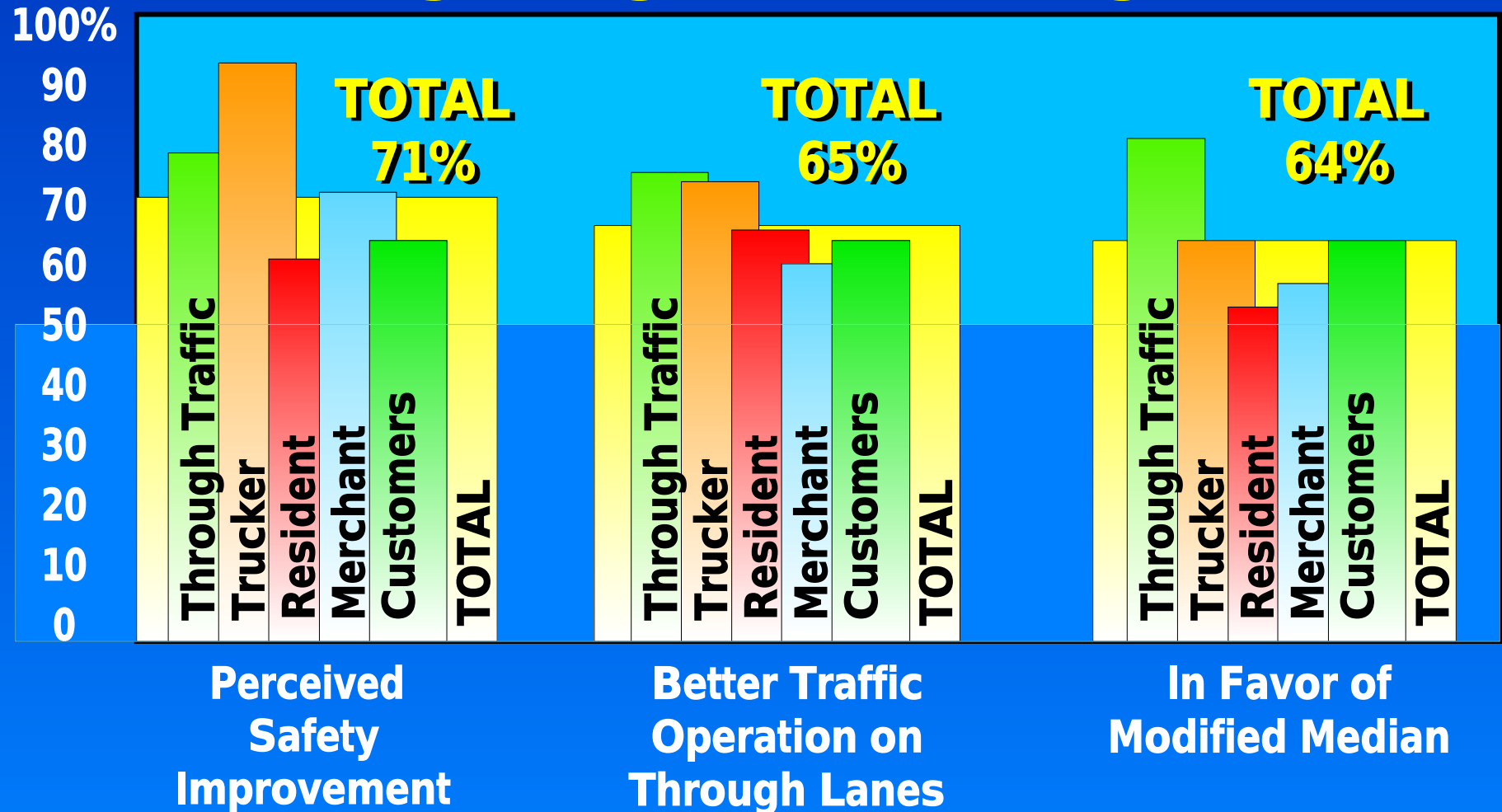
Oakland Pk Blvd

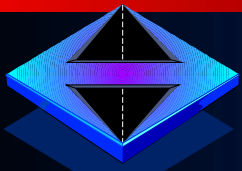
US 1 (Stuart, FL)

Control Section
(no reconstruction)

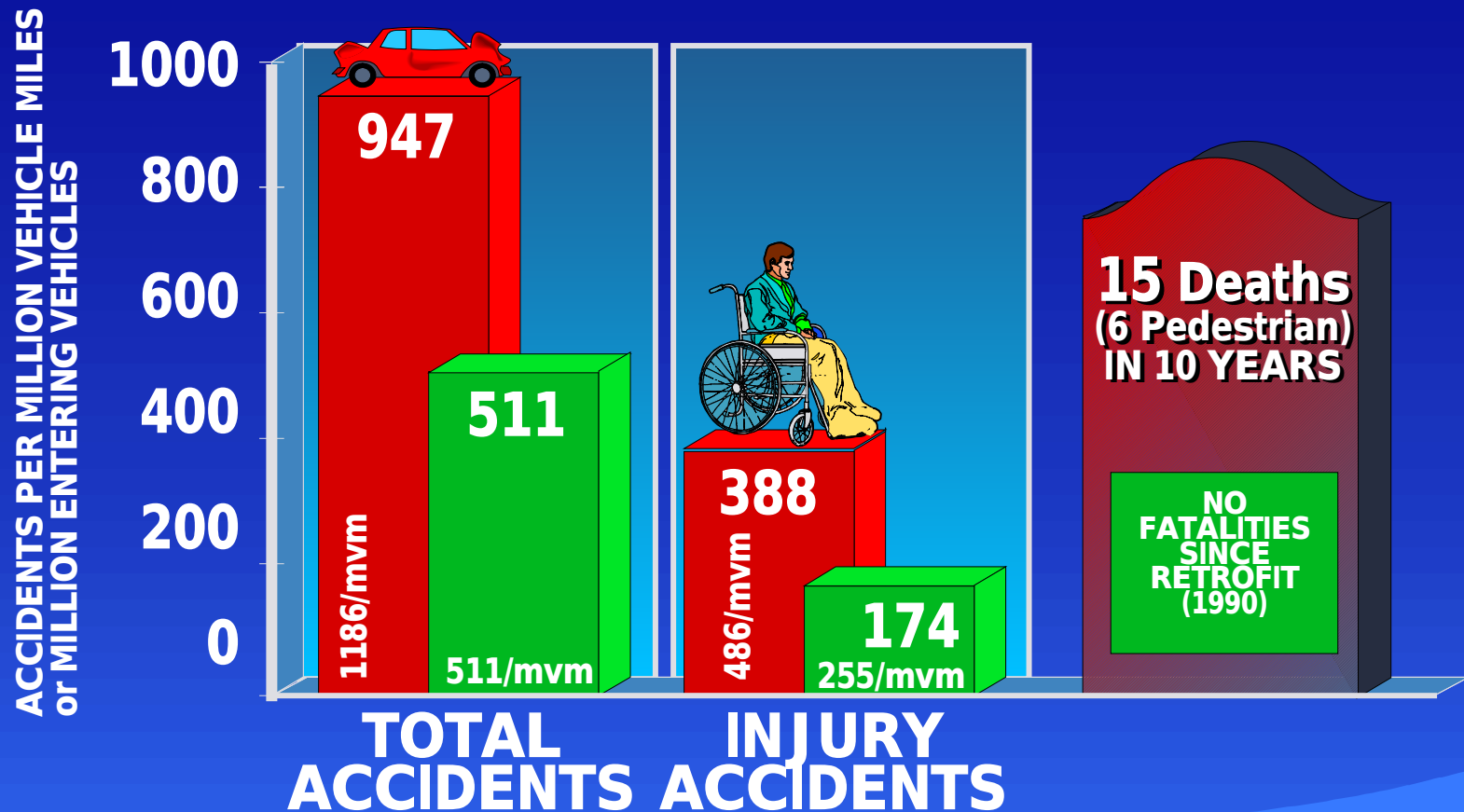
PUBLIC ATTITUDE

Regarding Median Change





Memorial Drive Study/ Atlanta, GA



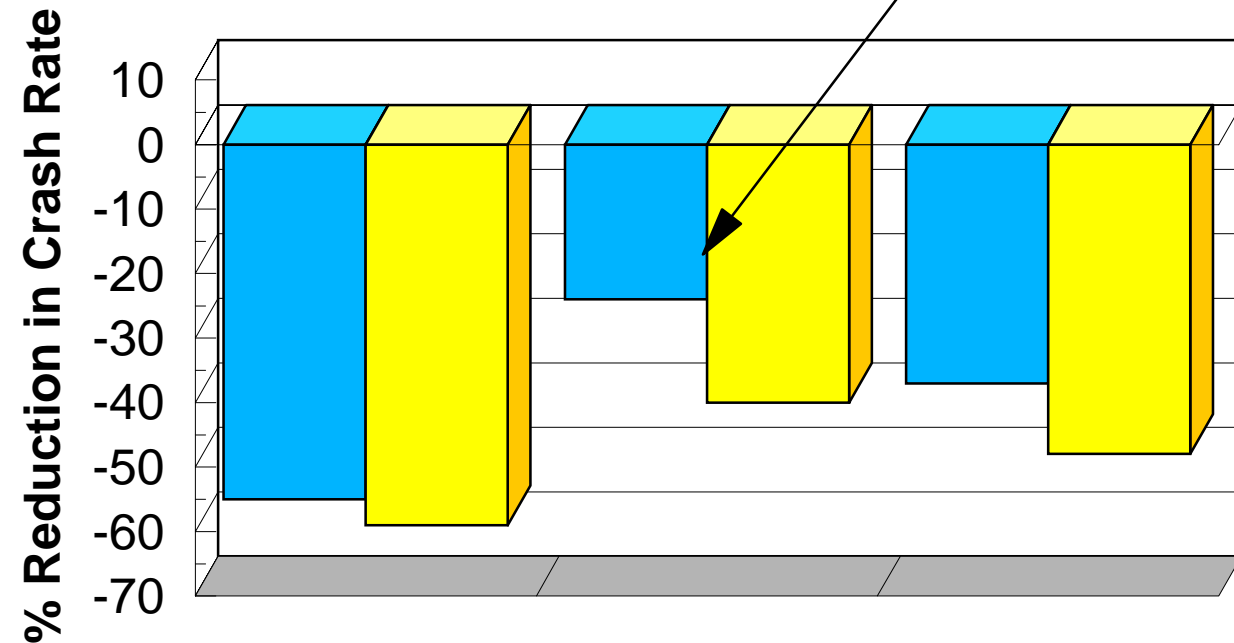
TWLTL (BEFORE)

Raised Median (AFTER)

SOURCE: Squires & Parsonson, 1993

Crash Rate Reductions Memorial Drive

Shows how driver
information "load" can
improve situation with
even more traffic



	Midblock	Intersection	All
Total Crash Rate	(55)	(24)	(37)
Injury Rate	(59)	(40)	(48)





Kimberly Smith/Staff

The median on Memorial Drive, here dividing a westbound stretch of the road toward Stone Mountain, has been blamed for

forcing merchants to close or relocate their businesses since the concrete strip was installed as a safety measure in July.

Up against the 6-inch wall

Median saves lives, costs customers

LEAVING MEMORIAL DRIVE:

Merchants say the concrete strip built to reduce accidents has made their businesses inaccessible, forcing them to close or relocate.

By Katie Long

Staff writer

Nine months after workers poured a 4.3-mile slab of concrete down the center of Memorial Drive, transportation officials say the median is saving drivers.

But merchants along the strip say it's killing their businesses. The Blockbuster Video near Memorial College Avenue is gone. So is the Ace Hardware Workbench across the street from Memorial

Bend shopping center. A Pike Nursery moved a couple of blocks east and off Memorial Drive onto Rays Road.

Dozens of stores and shops along the DeKalb County stretch from Interstate 285 to Goldsmith Road have closed or moved to more accessible locations since the 6-inch-high concrete wall went up in late July.

"Since the median has gone in, it's been very difficult to lease any property along there, and all business is dropping off," said a real estate agent who handles property along Memorial Drive.

"For a destination-type place like Hooters (restaurant), it's OK," said the agent, who asked not to be identified.



Kimberly Smith/Staff

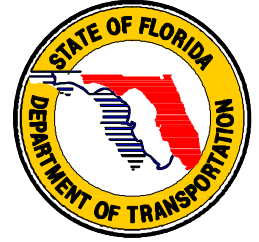
Merchant Dave Cardwell says the Memorial Drive median ruined his business.

Please see **MEDIAN**, B10 ►

Lessons From Memorial Drive

- Importance of robust public dialogue
- Interparcel access should be encouraged
 - joint driveways
 - shared parking
 - rear alleyways
- Sidewalk improvements are important

District 5 - Study Corridors



- SR 423 East (Lee Rd - Orlando area)
- SR 423 West (Lee Rd - Orlando area)
- SR 436 (Semoran Blvd - Orlando area)
- SR 520 (Merritt Island Causeway)
- SR 600/US 92 (Daytona)

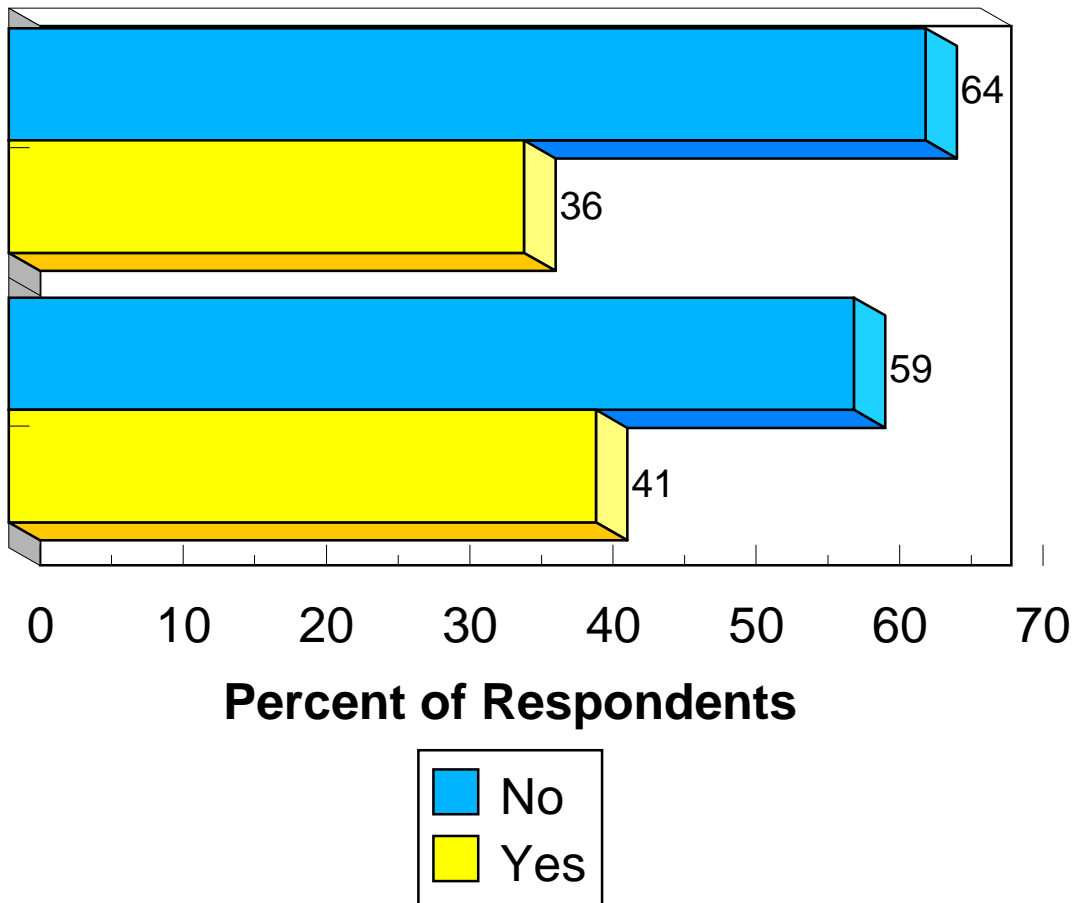


Business Survey



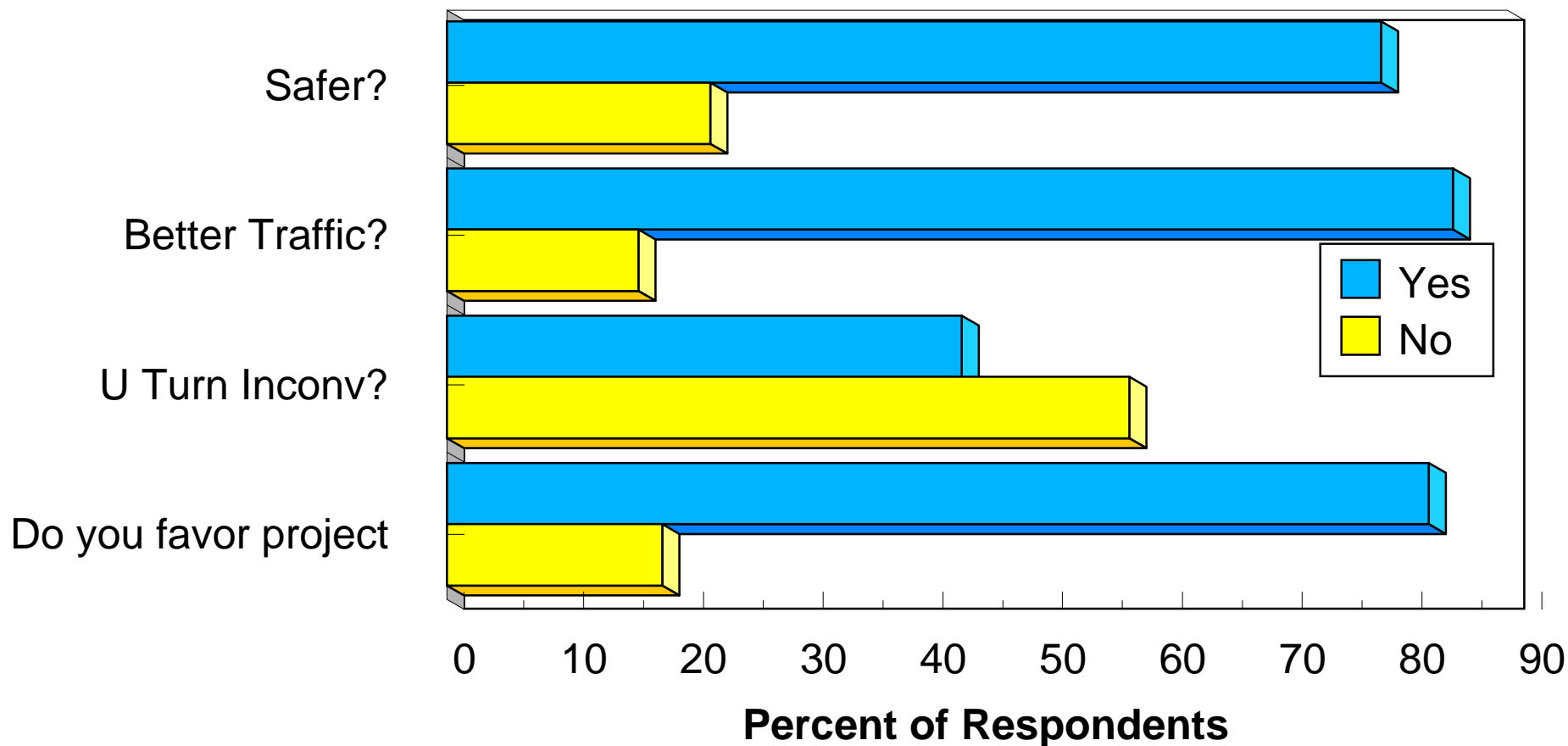
Inconvenient to
truck deliveries?

Major problems
now?



FDOT District 5 (Ivey, Harris & Walls) -1995

The Driver Survey

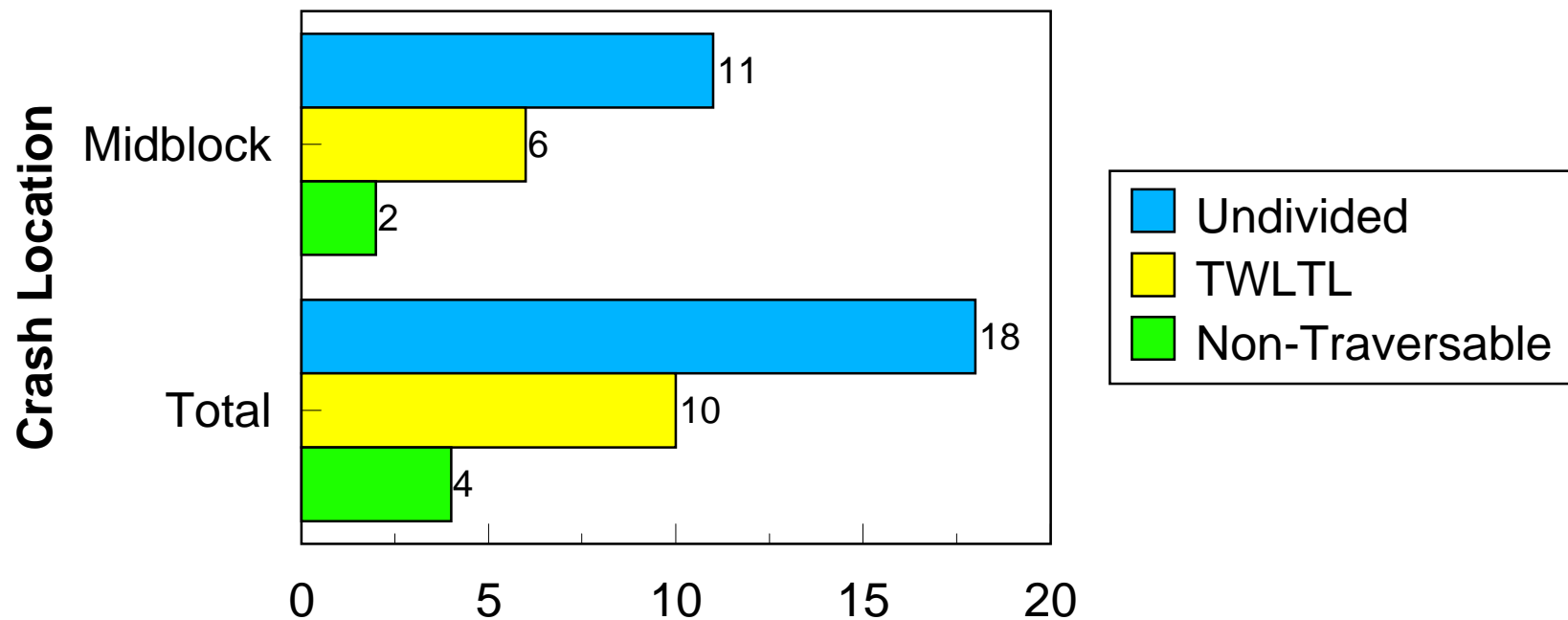


FDOT District 5 (Ivey, Harris & Walls) -1995

Florida - Pedestrian Safety

Pedestrian Crash Rates for Urban Areas

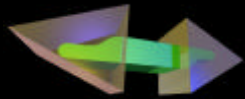
Crashes per 100 Million Vehicle Miles
For 4 Lane Highways



Source: Long, Gan, & Morrison University of Florida 1993

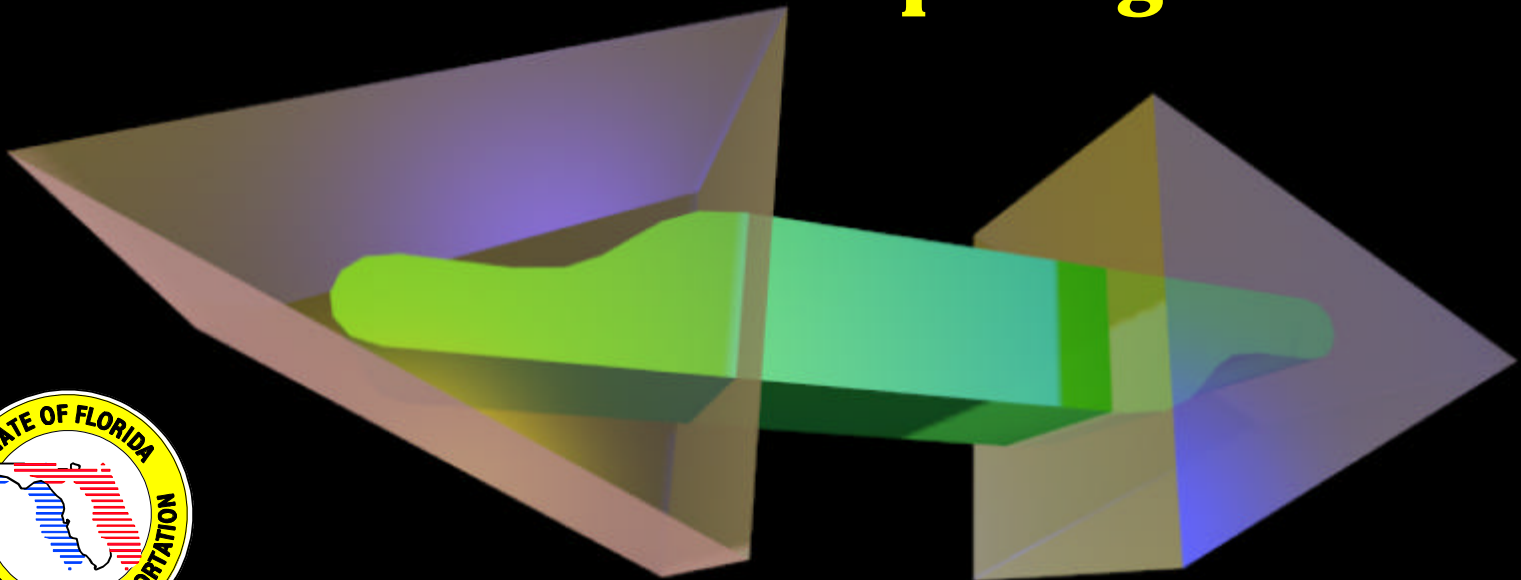
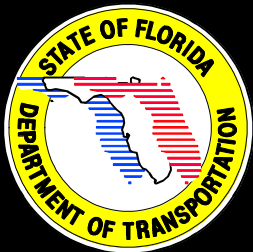






A procedure for decision making

Deviations from Median Opening Spacing Standards





Median Opening Review Team



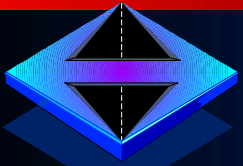
Appointed by District Secretary



**to provide
multi-disciplined review**

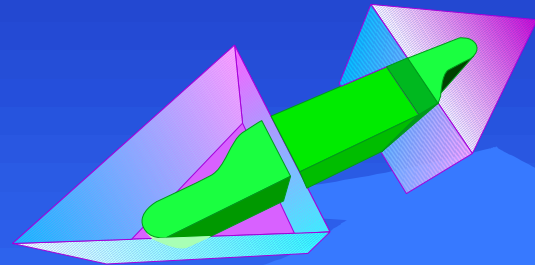


**may fit into current
committee structure**



Access Management Team in Each District

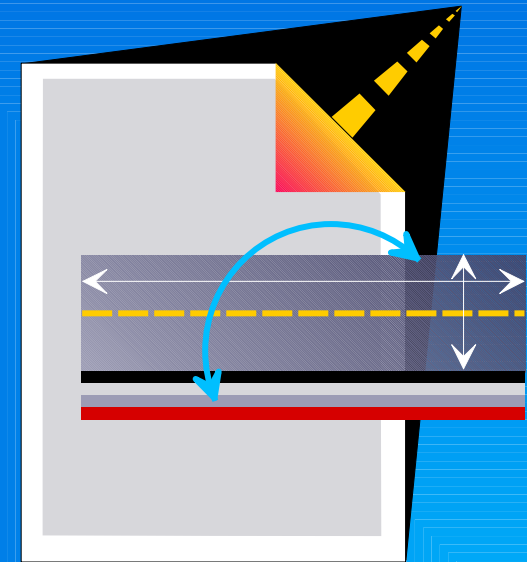
- ⇔ **For Major Variances**
- ⇔ **Major = 10% for "Full" openings**
District can be more strict
- ⇔ **Directional openings - "case-by-case"**
- ⇔ **All Access Issues**





Things that will be looked at

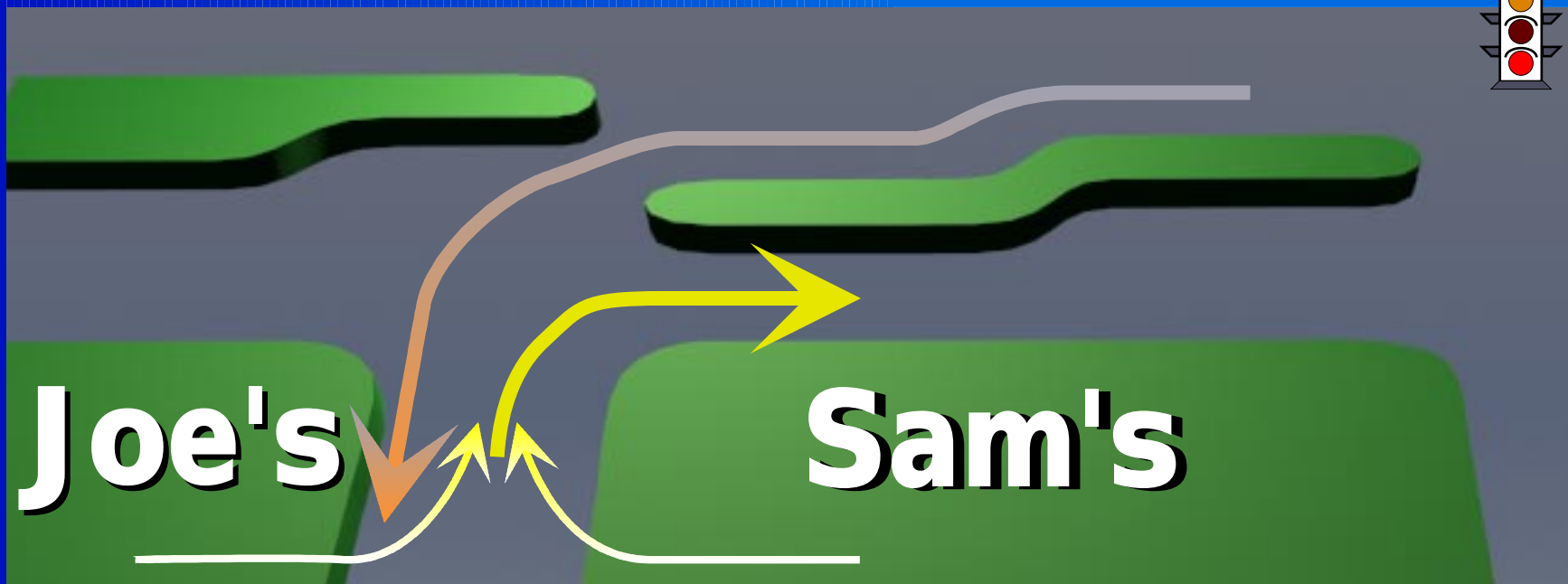
- ◆ **Space to handle movements**
- ◆ **What happens to rerouted traffic**
 - ✓ Ability to make "U" turns
 - ✓ Side street movements
 - ✓ Neighborhood
 - ✓ Cut-thru (up or down)
- ◆ **Maneuver distances**
- ◆ **Future traffic or plans**
- ◆ **Pedestrian concerns**





Favorable conditions

- ◆ Alleviate **significant** congestion?
- ◆ Joint access

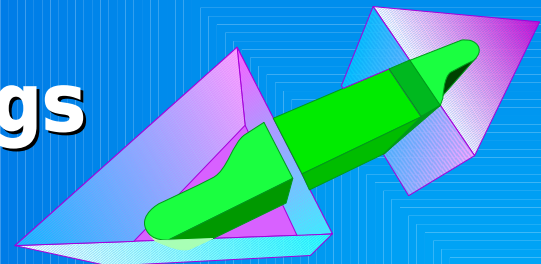









Other Conditions

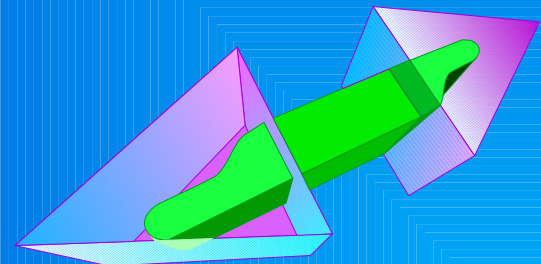


- ✓ **Un-relocatable or unique historic features**
- ✓ **Where strict adherence would cause safety problem**
- ✓ **Where a directional would replace a "full" opening**
- ✓ **Emergency vehicle openings**



Unfavorable Conditions

-  **Intrastate system**
-  **Where any openings unsafe**
example: SR 436 near I-4
-  **Openings in functional area of intersection**
-  **High crash locations**
-  **Where alternatives exist**





When to handle in production

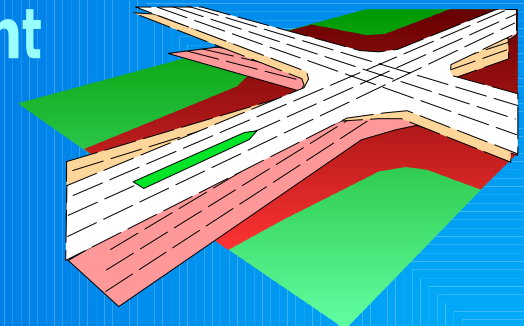
◆ PD&E Preferred

Unless Design Phase is 4 or more years away

But even then, much can be done for
known major cross streets

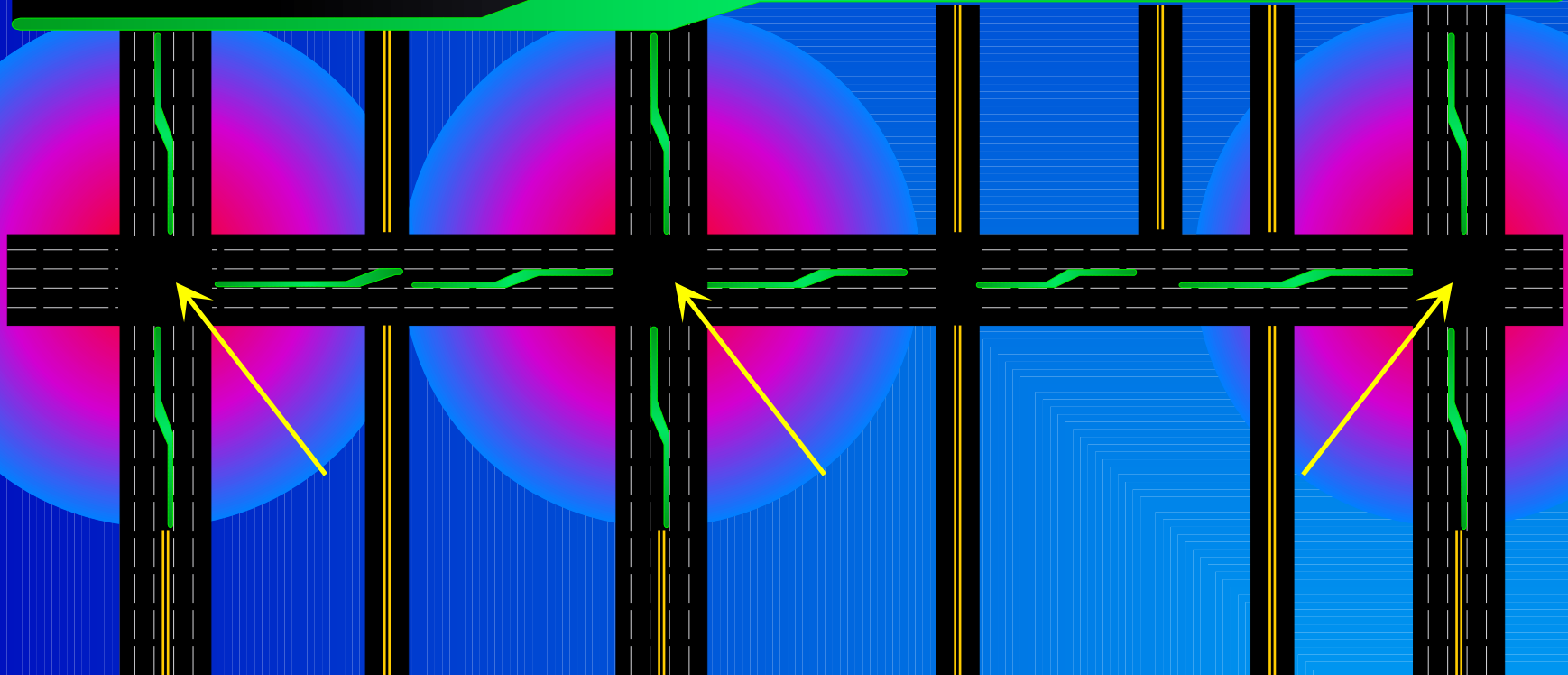
◆ Should be done **at least by 30%** Design Phase

Changes can be made later
with appropriate public involvement





How much can be done "early on" in production?



**Median opening design can start at
major intersections early**



Keeping People Informed

- ◆ Important even when not required by law
- ◆ Big public hearings not always the way



Green Cove 'road wars' heating up

By Bill Broome
Staff Writer

GREEN COVE SPRINGS — The battle lines have been drawn in the "Road War" between the Green Cove Springs City Council and a number of local business people whose establishments are located along the city's main road, City Avenue (U.S. 17).

DOT apologizes for ramrodding 'Bo's Boulevard'

Transportation planning secretary for Florida says the Federal Highway Administration will follow local procedures when it

approves the project, says the secretary. The project will be approved by the state DOT. The project will be approved by the state DOT. The project will be approved by the state DOT.

Businesses want median erased from road plan

Opponents say a median on State Road 44 would cause too many access problems for area stores.

By GEORGE WILKINS
Tallahassee Staff Writer

TALLAHASSEE — It will be a couple of weeks before the Department of Transportation

erases a median, to accommodate turning traffic.

Charles E. Desrosiers of CRC Fence & Lumber, who helped organize a petition drive opposing the median, said the median was removed when the highway was widened from County Road 361 through the

Desrosiers said 1981 when DOT wanted to build to increase the road median. It tried to take into account the many large property owners serving U.S. 44 businesses.

Group claims victory in median battle

Transportation planners recommend project redesign

By Dennis Thompson Jr.
FLORIDA TODAY

Business owners and residents along South Patrick Drive won a battle Wednesday in their fight against the raised median threatening to tear their community apart.

They convinced Brevard County's transportation planning group to oppose state plans to widen South Patrick Drive to four lanes, with a raised median separating the northbound and southbound lanes.

Residents of Indian Harbour Beach and Satellite Beach said the median would hamper traffic and rob businesses of customers who would have to go out of their

TRANSPORTATION

way by U-turning to reach shops across the road.

"I think we won today. I thought we got a very fair shake at that meeting," said Richard Ferry, president of Valjean Corp. on South Patrick Drive. "But to use the cliché, I'm cautiously optimistic."

"Like all political bodies, we have to tell you everything. I taken care of it before the election, then things go into planning and all of a sudden you're not. God knows what you're going to do."

See MEDIAN, NEI Page 2



South Patrick, FLORIDA TODAY

Designing an intersection

The old way: Too many driveways at U.S. 19 and Sunset Point Road in Clearwater.

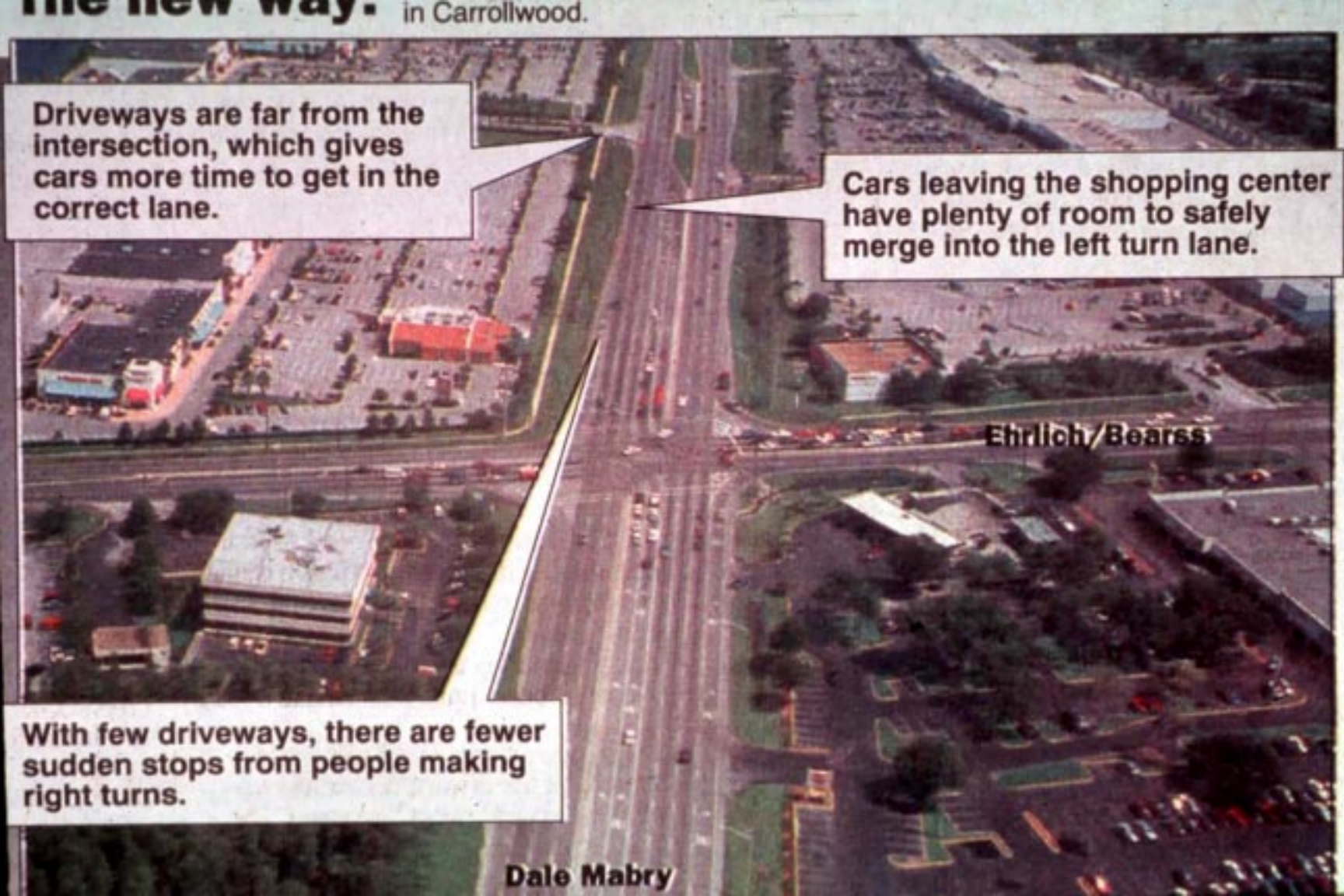
Cars that leave a driveway often try to merge across several lanes of traffic to make a turn.

Driveways too close to the intersection can increase the risk of crashes because cars are merging into traffic at the same place other drivers are making turns.

Sunset Point Rd.

With driveways so close to the corner, motorists don't know if the car in front will suddenly turn for a driveway or wait for the intersection.

U.S. 19



Driveways are far from the intersection, which gives cars more time to get in the correct lane.

Cars leaving the shopping center have plenty of room to safely merge into the left turn lane.

Ehrlich/Bearss

With few driveways, there are fewer sudden stops from people making right turns.

Dale Mabry

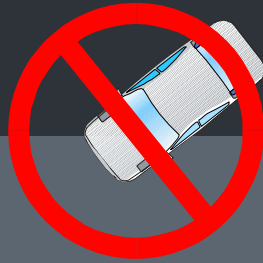


No More Median Removals





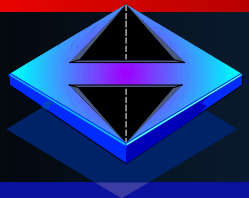




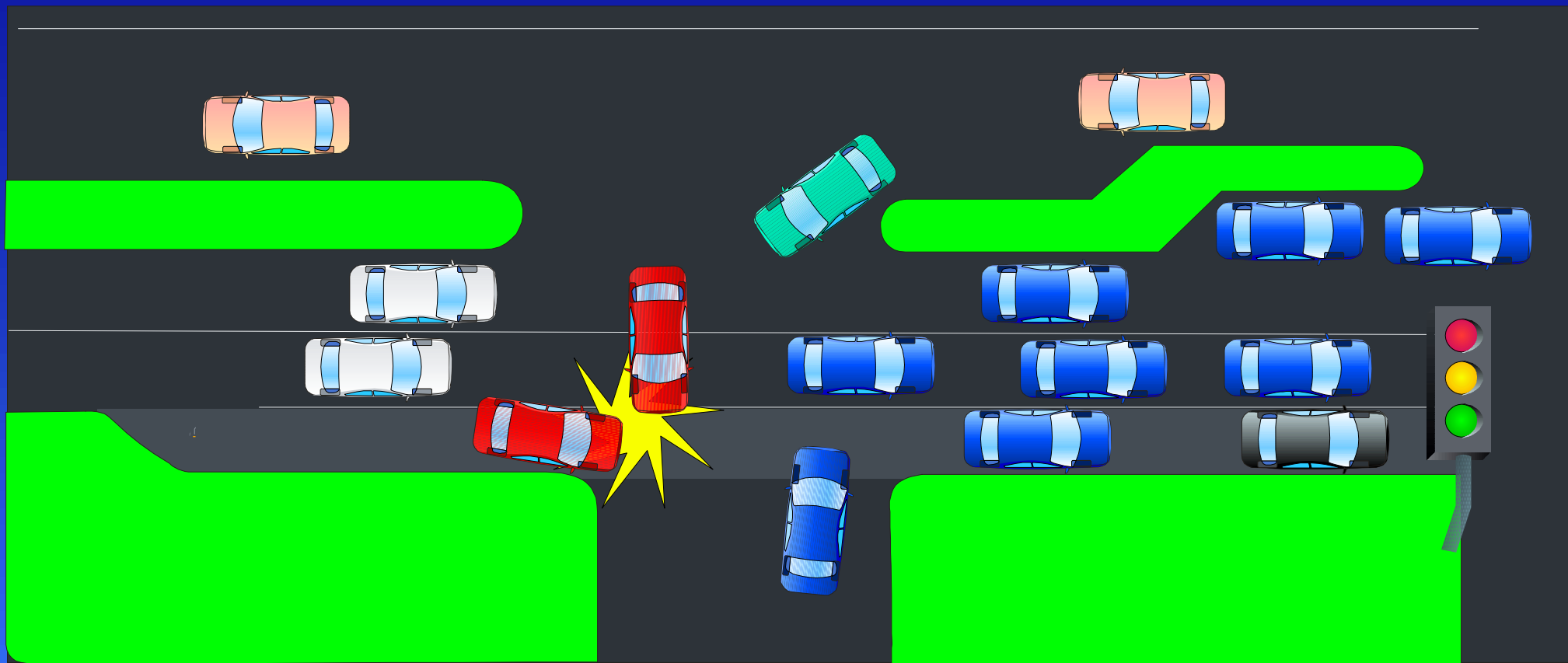


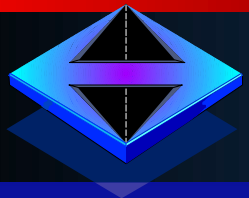




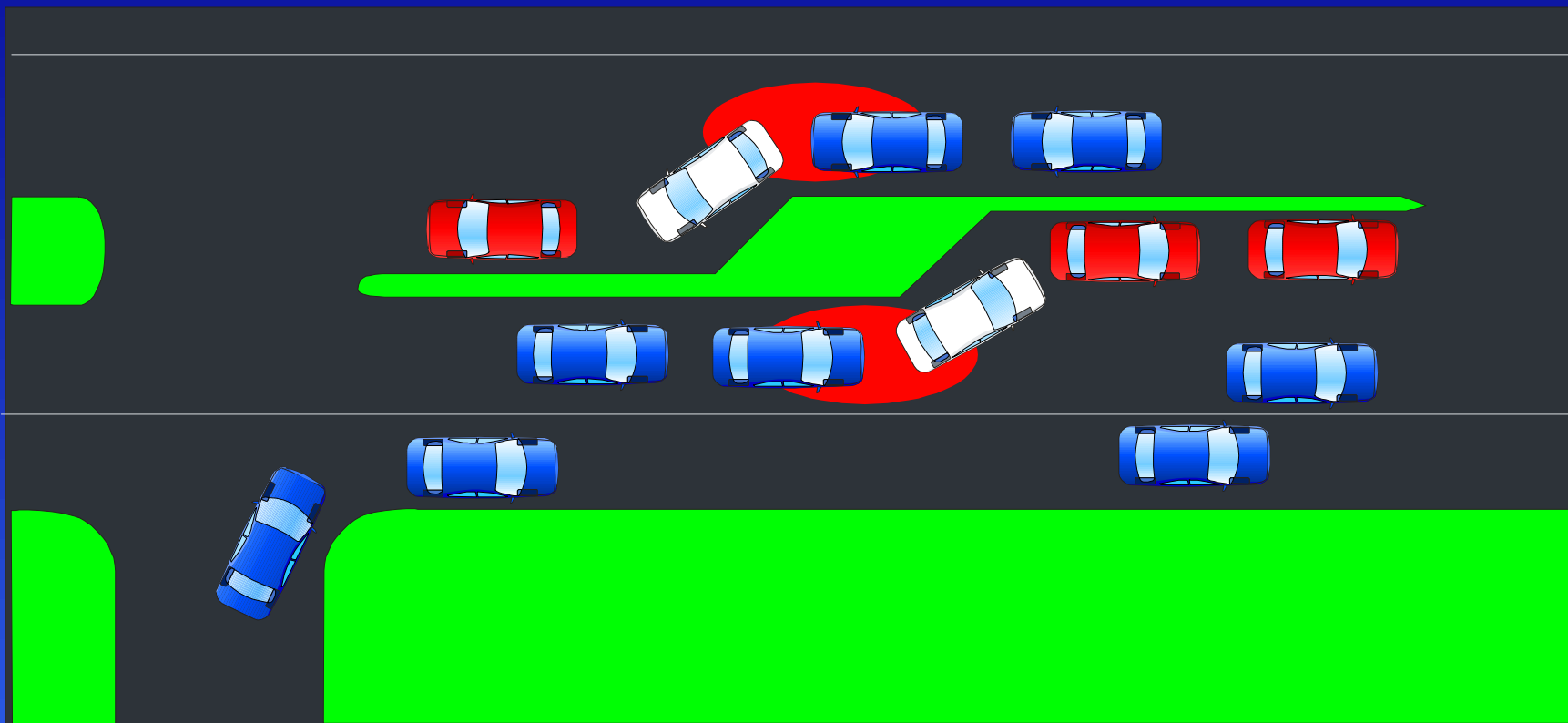


Avoid openings across right turn lanes





No openings that fail



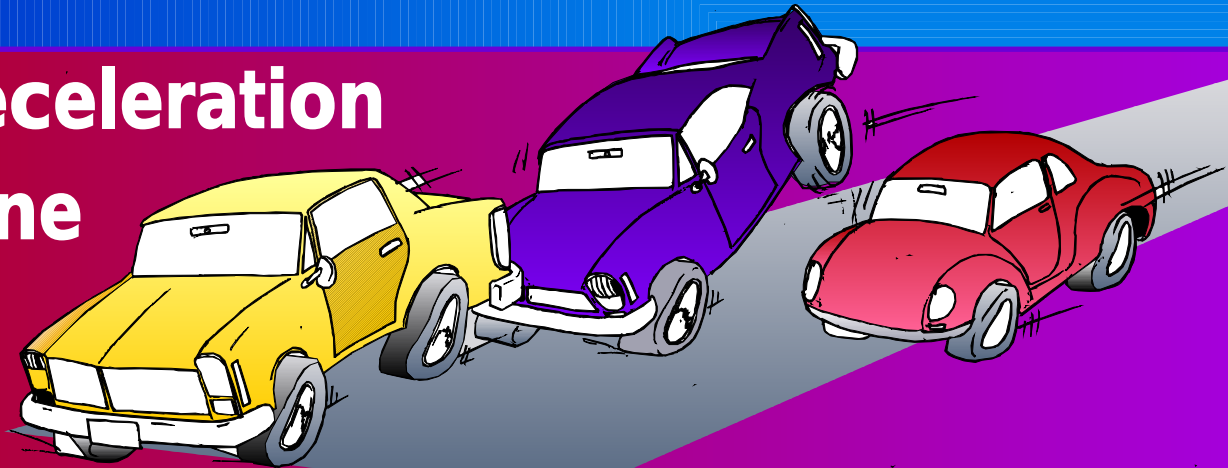


What is Median Opening Failure?

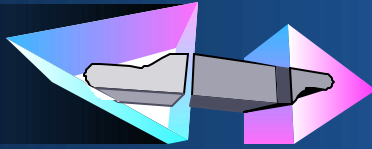
Too many stored vehicles



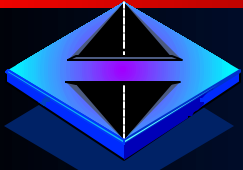
**Excessive deceleration
in through lane**



CHAPTER 2



IMPORTANT CONCEPTS IN UNDERSTANDING MEDIAN AND MEDIAN OPENING PLACEMENT



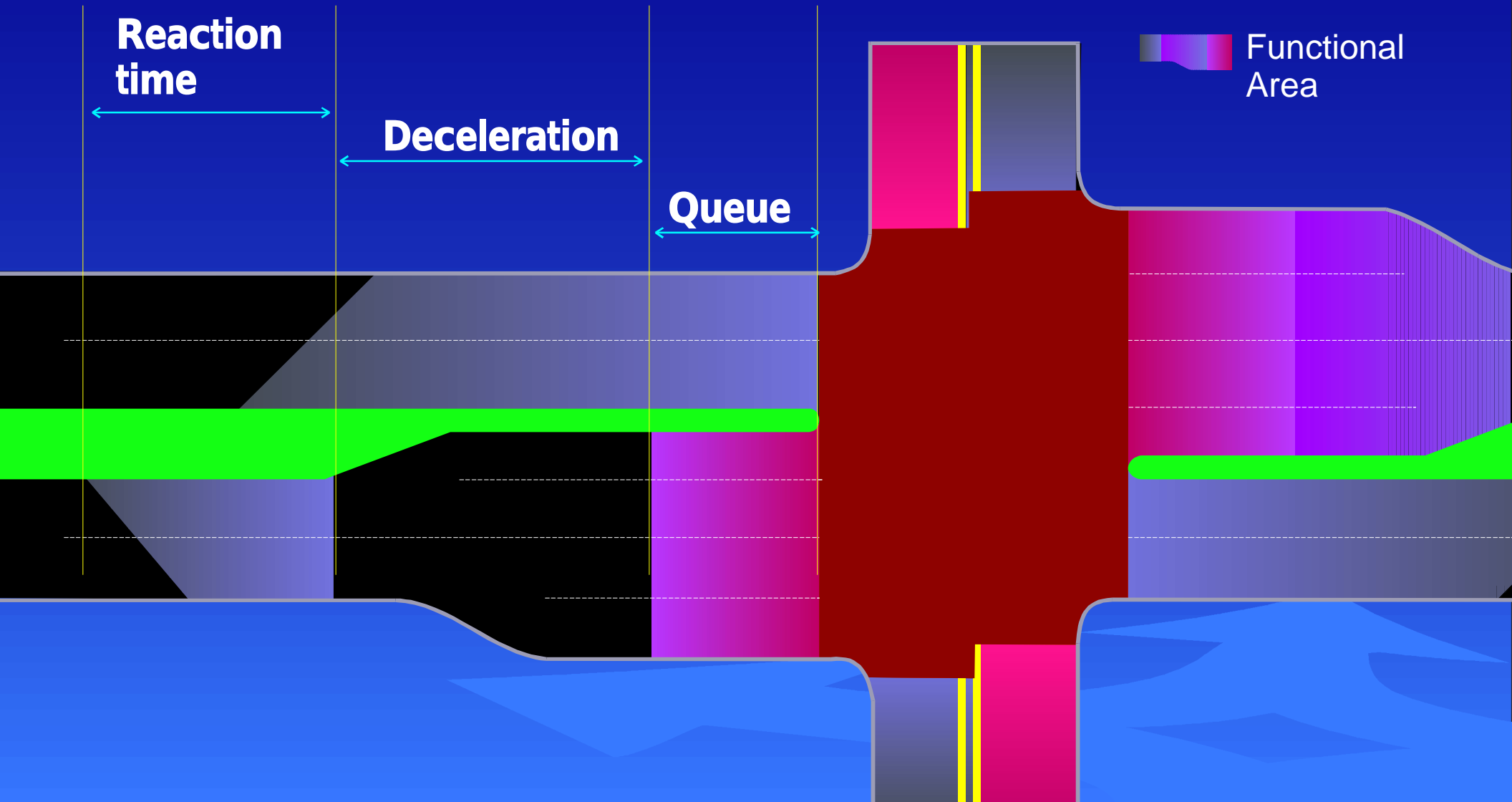
IMPORTANT CONCEPTS IN UNDERSTANDING MEDIAN OPENING PLACEMENT

2.2.1 Parts of the Functional Area



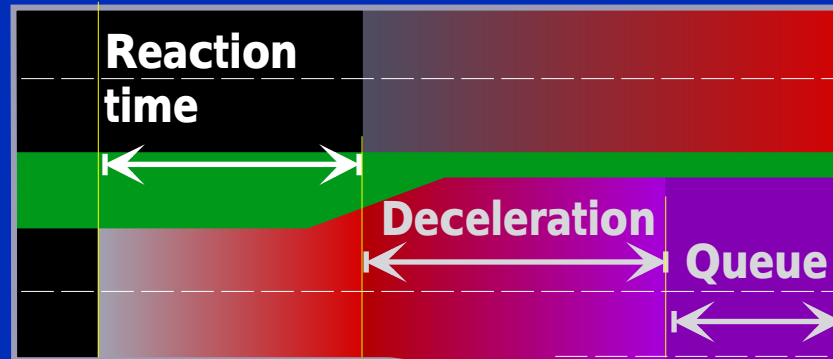


Parts of the Functional Area





Reaction Time

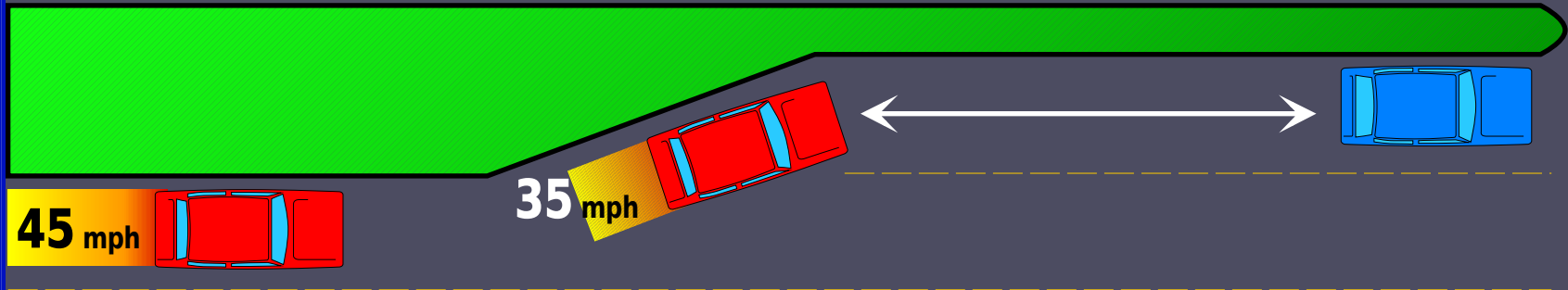


Areas	Sec.	35mph	45mph
Rural	2.5	130 ft	165 ft
Suburban	2	100 ft	130 ft
Urban	1.5	75 ft	100 ft

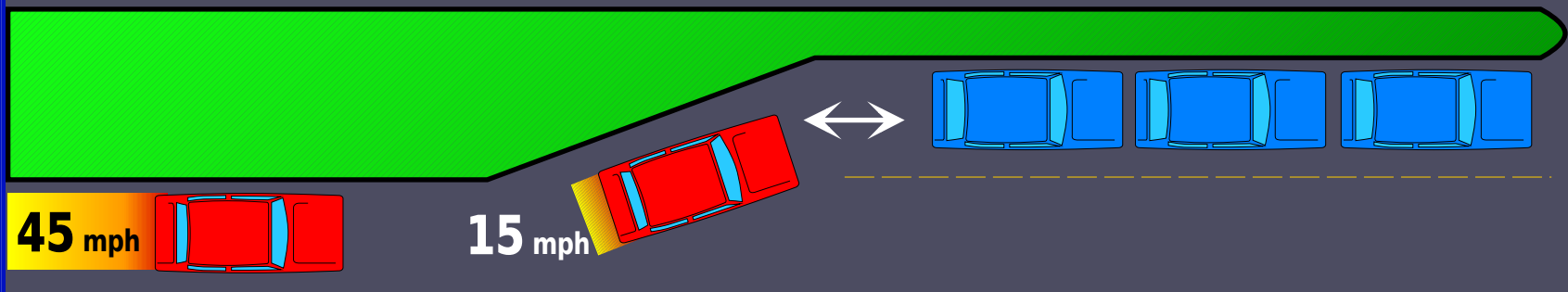


Excessive Deceleration

10 mph speed differential



30 mph speed differential



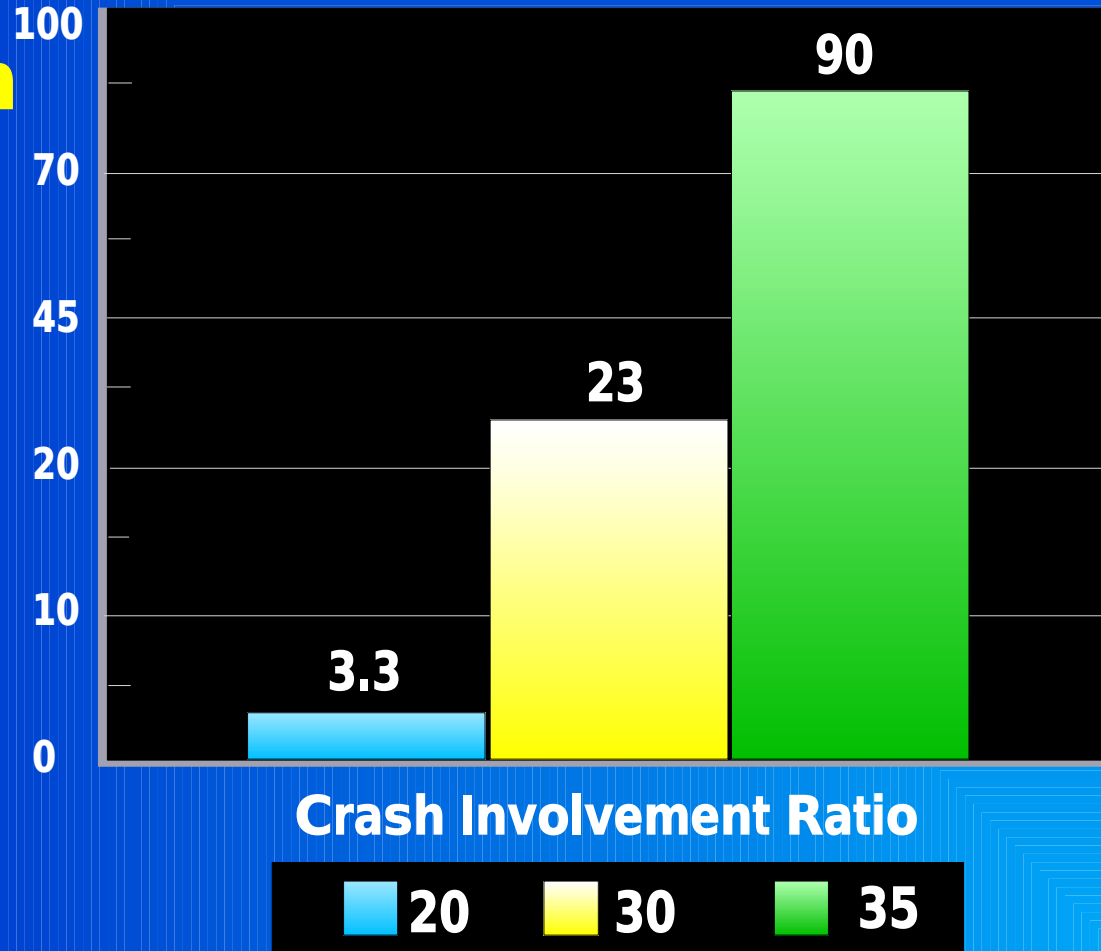


Let's talk speed differential

Relative crash involvement rate ratios

in comparing speed differentials over 10 mph for arterial roads

Solomon: 1964
Bureau of Public Roads
Accidents on Main Rural
Highways related to speed



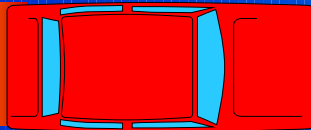


Standard Index #301

Storage and deceleration requirements

@

45 mph

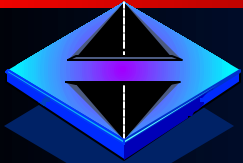


#301 has no
standard for
min. queue



185 ft

Storage @ 25 ft
per vehicle



IMPORTANT CONCEPTS IN UNDERSTANDING MEDIAN AND MEDIAN OPENING PLACEMENT

Queue Storage







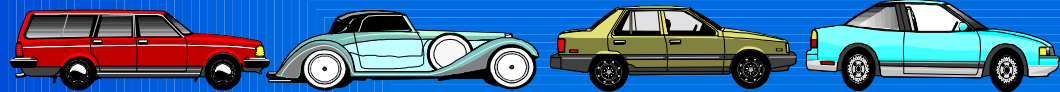


Recommended Queues

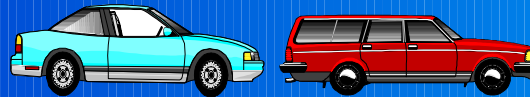
As measured or projected by traffic study



**4 cars urban
minimum**



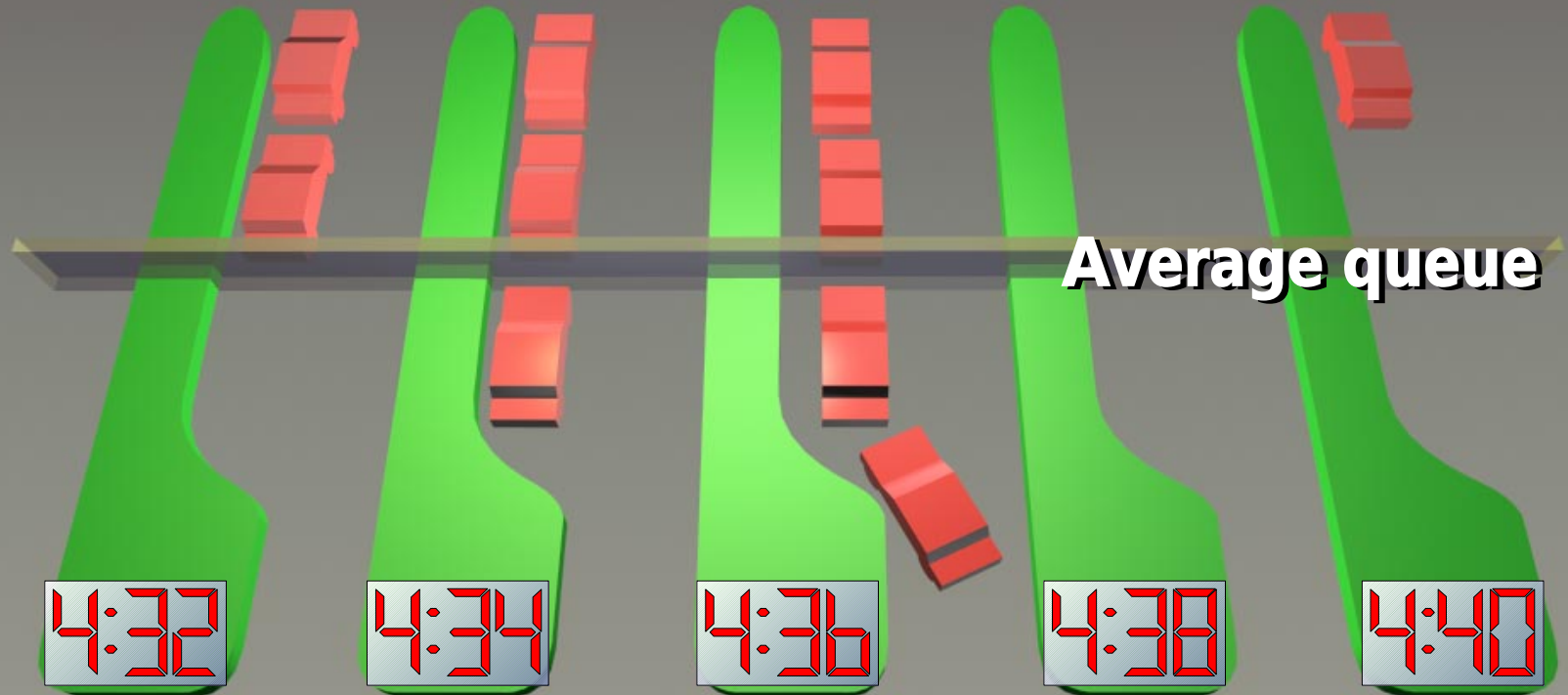
**2 cars rural
or small town**



**unless it serves a major generator
(large discount store, shopping center, etc.)**



How can designing to the average fail?



average queue = 2 cars

40% failure rate

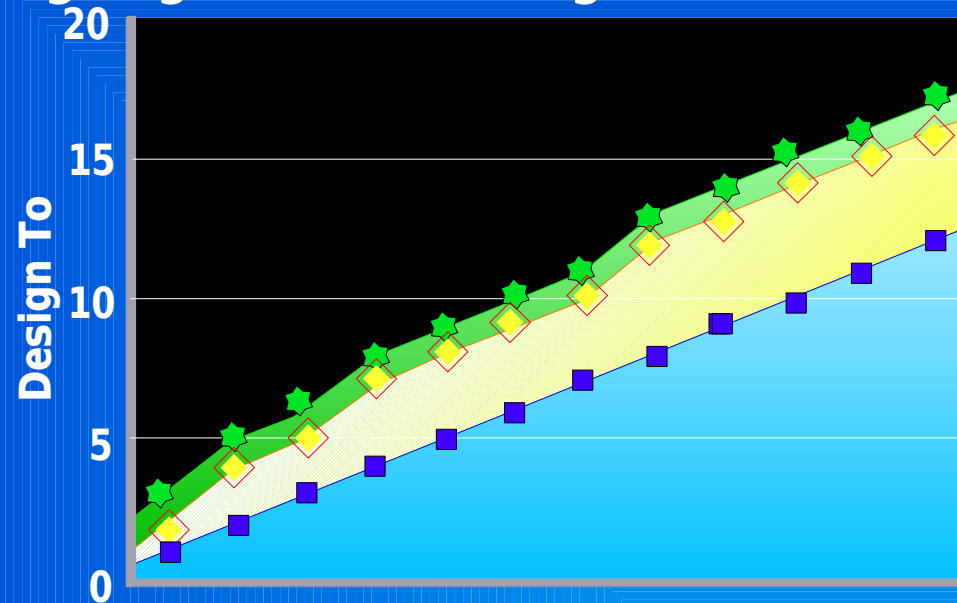


Queue Storage

Remember:

you need almost twice
the average queue
for storage length

Designing Left Turn Storage for Success

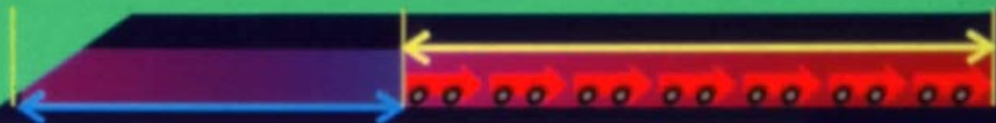


Average Demand Per Cycle	1	2	3	4	5	6	7	8	9	10	11	12
30-40% Failure	1	2	3	4	5	6	7	8	9	10	11	12
10% Failure	2	4	5	7	8	9	10	12	13	14	15	16
5% Failure	3	5	6	8	9	10	11	13	14	15	16	17

Source: Use of Poisson Approximation



Recommended Left Turn Queue for Unsignalized Openings



Lefts/Hour	Average Demand Per Interval	Recommended Queue	Recommended Queue FIHS
50	1.7	3	4
60	2.0	4	5
80	2.7	5	6
100	3.3	6	7
120	4.0	7	8

Rural or
Small town

Assumptions:

1. 120 second interval
2. Approx. probability of "success" (storing all vehicles)
90% non-FIHS, 95% FIHS

Assumptions:

1. 120 second interval
2. Approx. probability of "success"
90% non-FIHS

95% FIHS

Lefts/Hour	Average Demand Per Interval	Rec. Queue	Rec. Queue FIHS
30	1.0	2	3
40	1.3	3	4
50	1.7	3	4
60	2.0	4	5
70	2.3	4	5
80	2.7	5	6
90	3.0	5	6
100	3.3	6	7
110	3.7	6	7
120	4.0	7	8
130	4.3	7	8
140	4.7	7	8
150	5.0	8	9
160	5.3	8	9
170	5.7	9	10
180	6.0	9	10
190	6.3	10	11
200	6.7	10	11

For use in rural areas or small towns

Example of Calculations

30 lefts per hour

3,600 seconds/hour

120 second Cycle

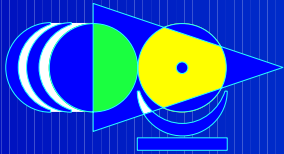
30 Cycles/Hour (3,600 seconds/120 seconds)

1 Vehicle/Cycle (30 cycles/30 vehicles)

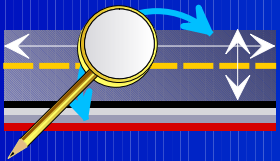
If 2 Vehicle Queue provided, this will handle 90% of all queues



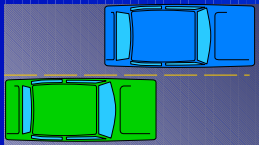
How do you project queues?



Design Traffic



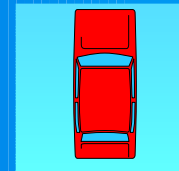
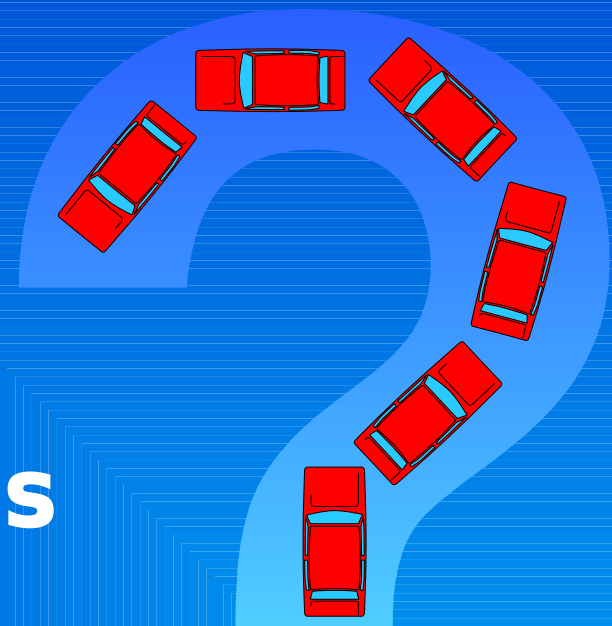
Site Analysis



Current Conditions

Remember -

Left turns are highly variable
and hard to predict





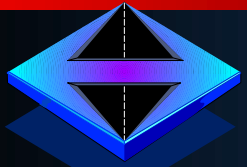
Sister FAY Office
→ 1729 →

WILLIAM REALTY
325-1400





TRAFFIC MIX

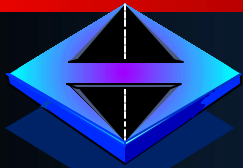


Adjustment for Large Vehicles

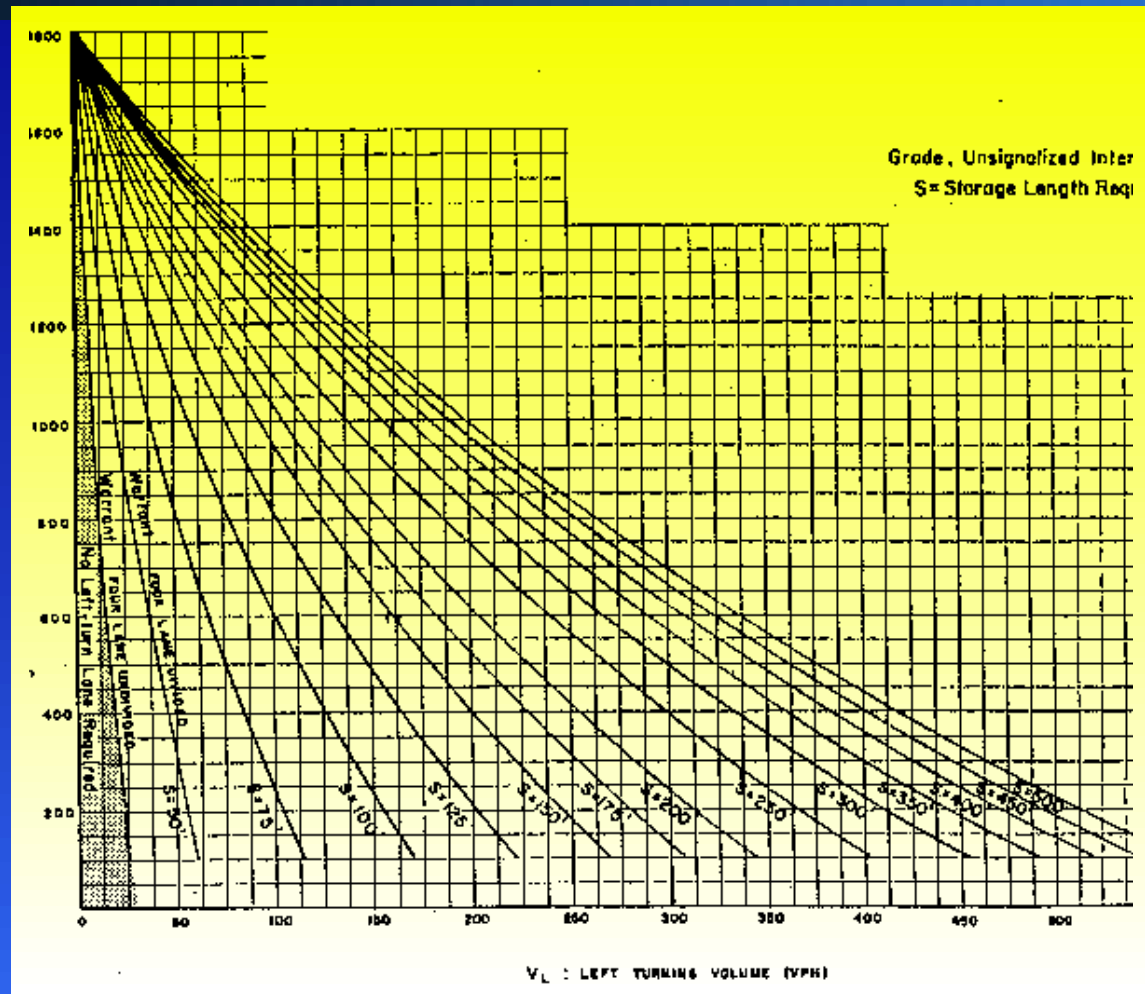


Percent Trucks	Average Storage Length per Vehicle	
<2%	25 ft	7.6m
5%	27ft	7.7m
10%	29ft	9.0m
15%	32ft	10.0m
20%	35ft	10.7m





Harmelink Curves

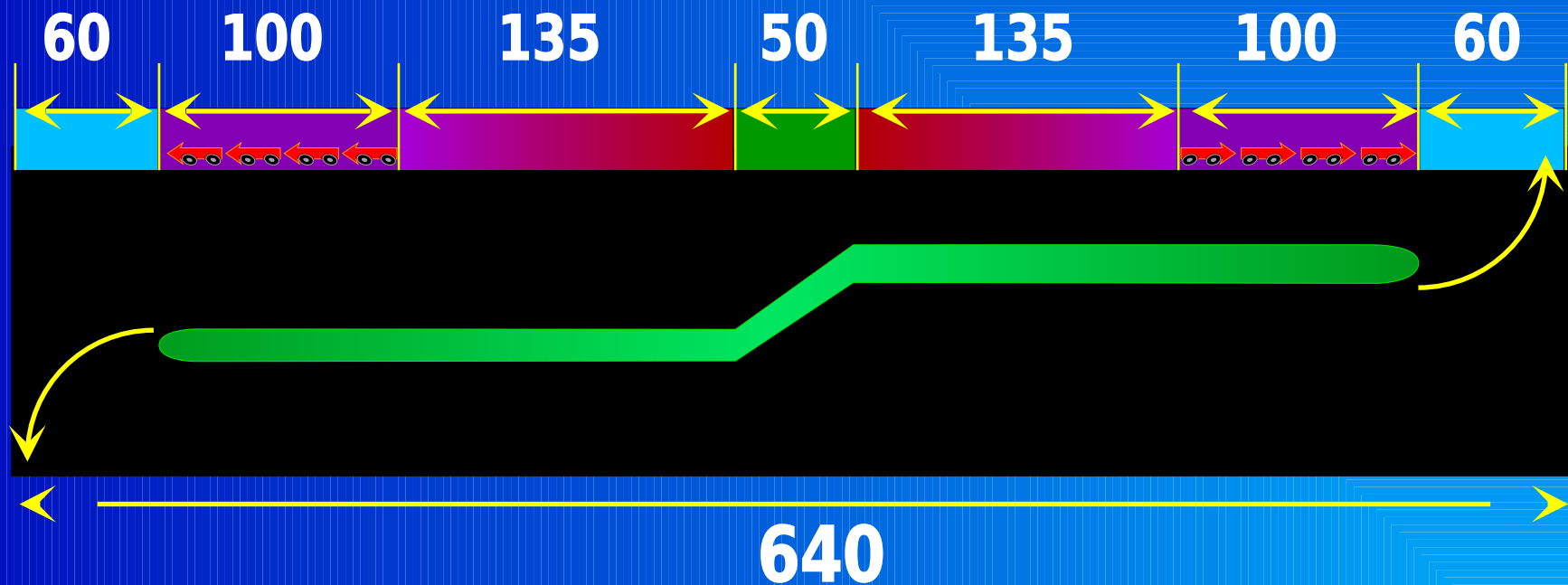


Warrant for left turn storage lanes on 4 lane highways



One Very Tight Possible Scenario

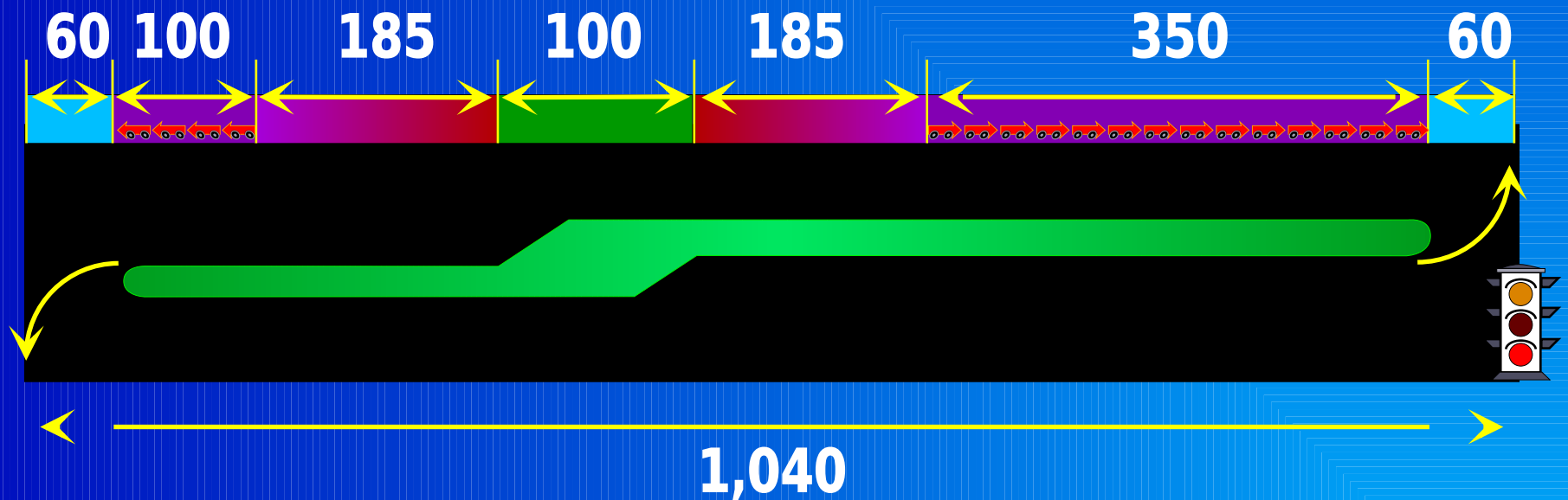
Urban conditions @ 45 mph design





More realistic minimum scenario

Urban conditions @ 45 mph design





Staying ahead of problems

Rural multilane in suburbanizing areas

- ◆ Change bullet nose to storage
- ◆ Close under-used openings

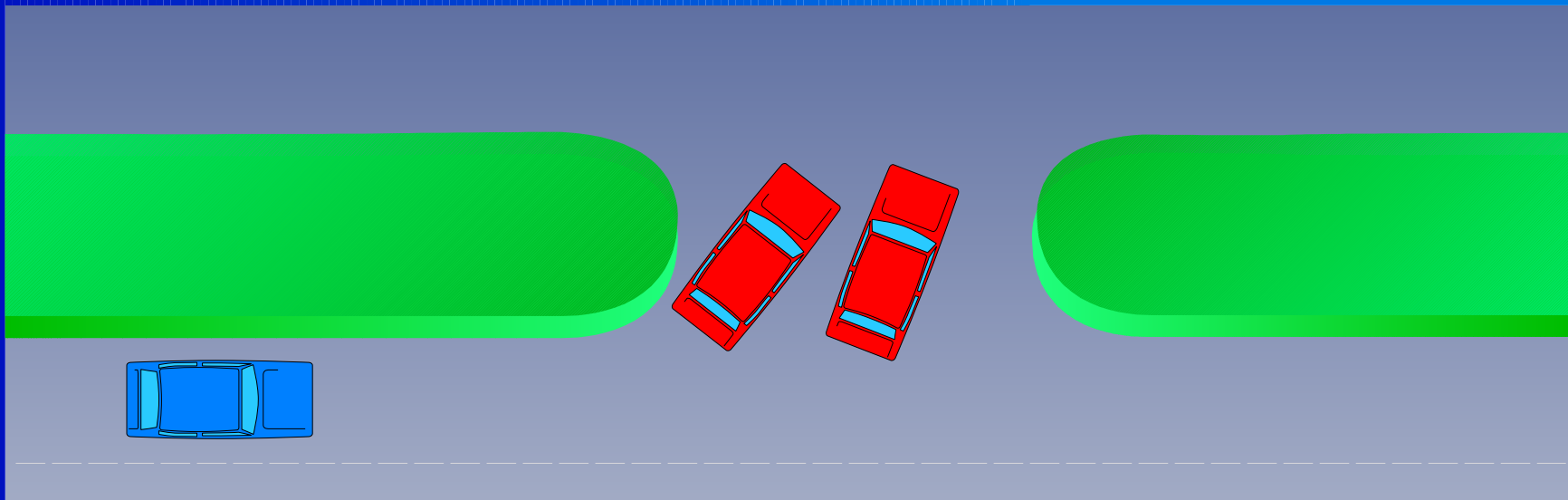
Rural "Bullet" Nose

add storage



What's wrong with rural bullet noses?

- ❖ Require too much deceleration for urban/suburban traffic
- ❖ Provide too little storage

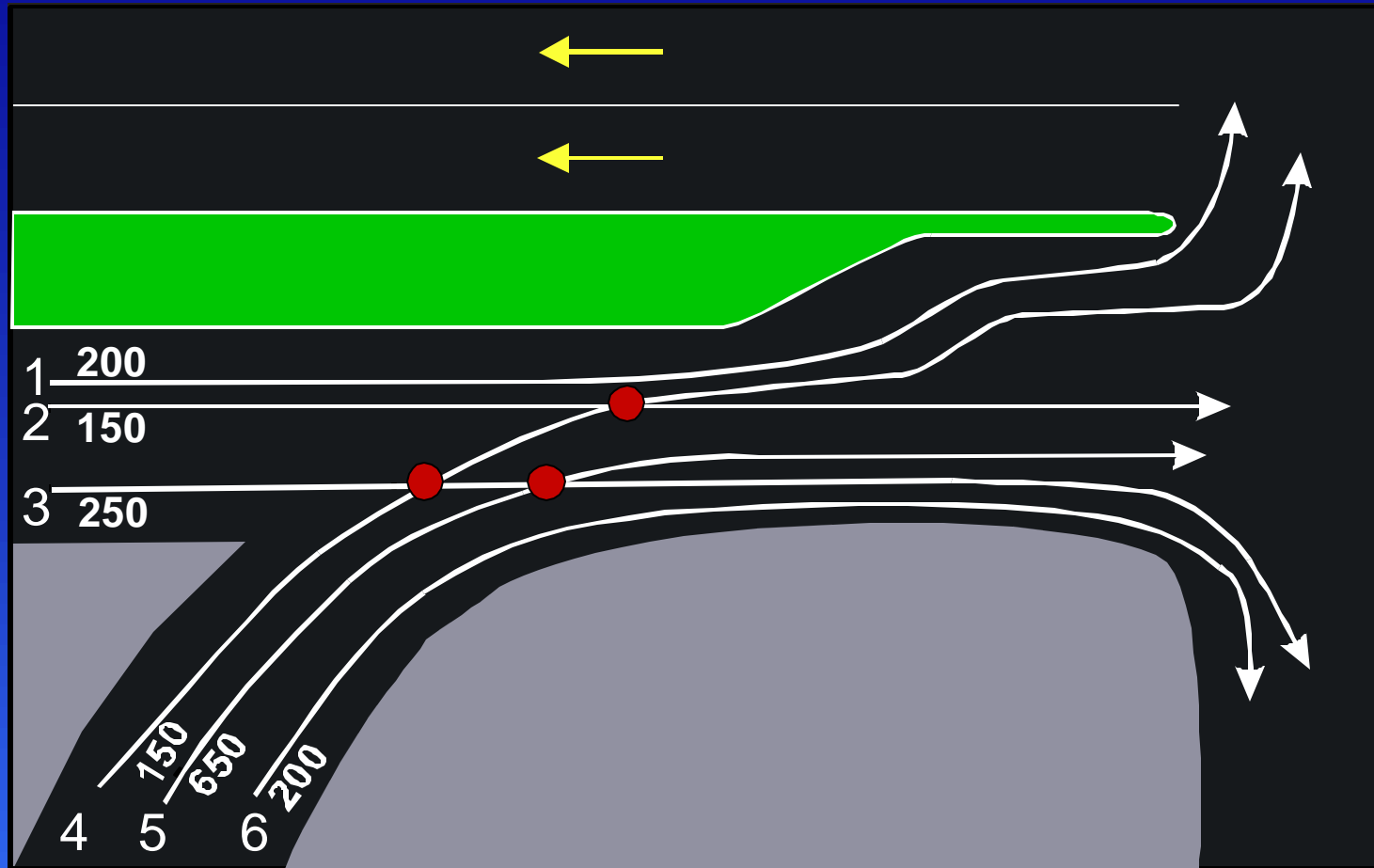






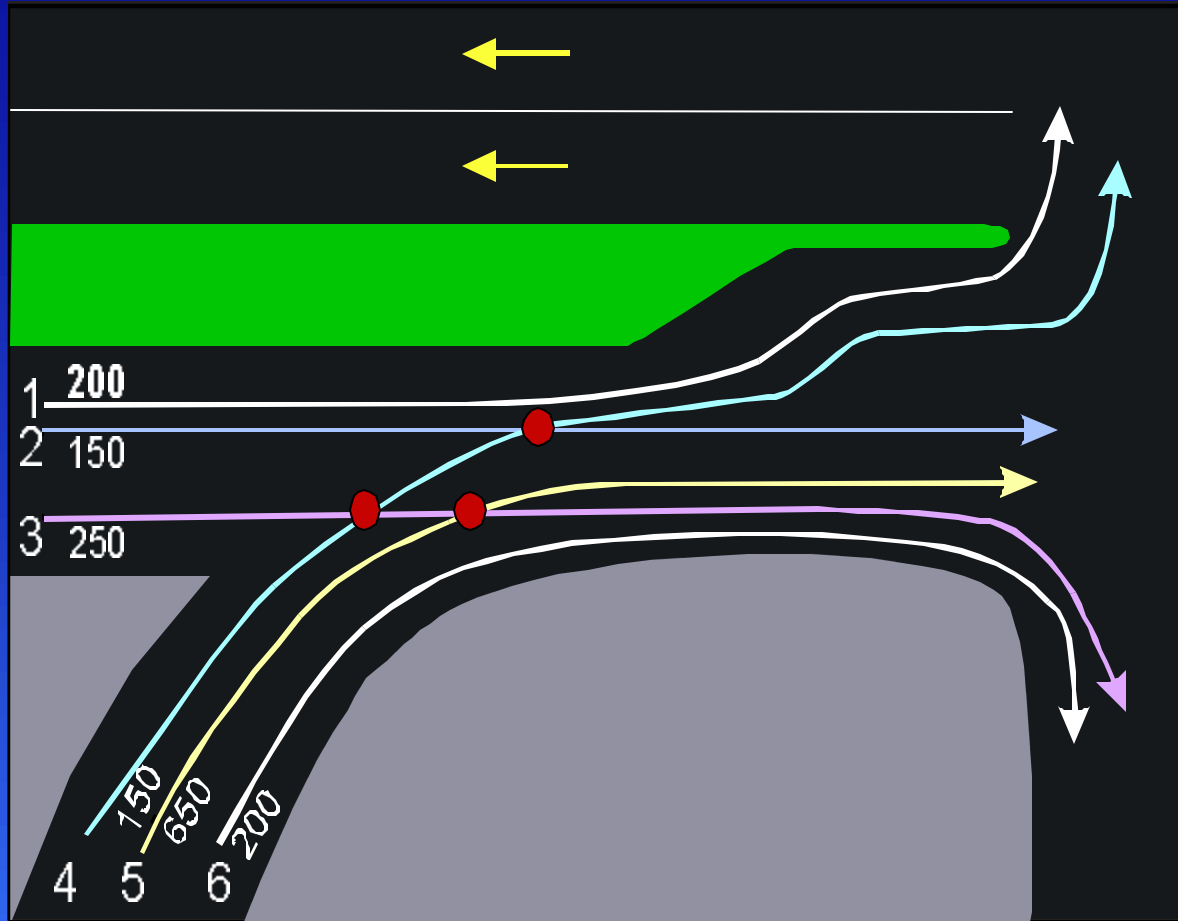


Conflicting Weave Streams





Conflicting Weave Streams

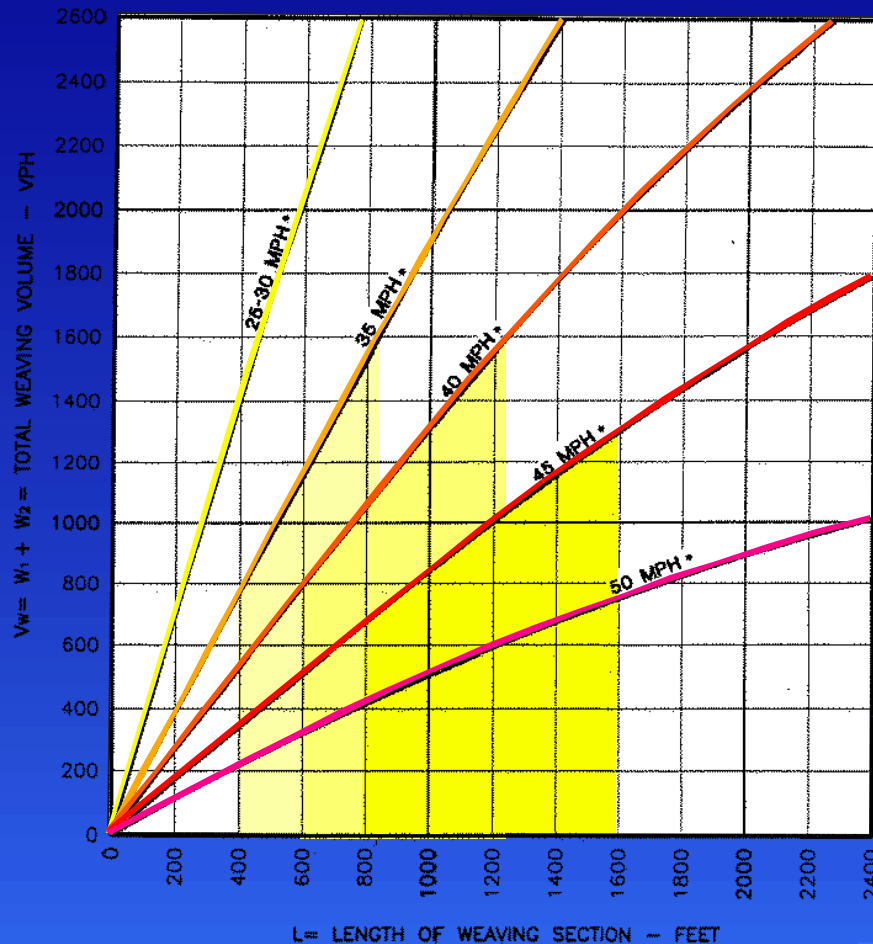


Total volumes for
conflicting weave streams

Movement	Volume
2	150
3	250
4	150
5	650
<hr/>	
Total	1,200



Weaving Length



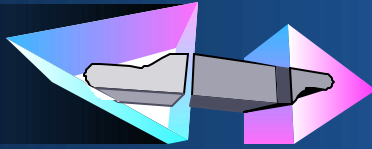
Most urban situations fall within 800 to 1,600 conflicting weaving movements. For a weaving running speed between 35 and 45 mph, we see that the weave section should be between 400 to 1,600 feet.

OTE: * AVERAGE RUNNING SPEED, WEAVING TRAFFIC

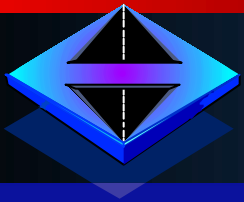
Source: Joel Leisch

ADAPTED FROM "PROCEDURE FOR ANALYSIS AND DESIGN OF WEAVING SECTIONS,"
IWA PROJECT DTPH81-82-C-00050, BY JACK E. LEISCH, 1984.

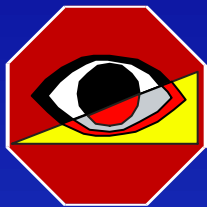
CHAPTER 3



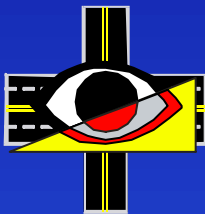
SIGHT DISTANCE AS IT RELATES TO MEDIAN OPENING DESIGN



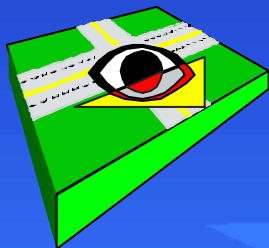
Sight Distances



Stopping Sight Distance



Sight Distance For
Right & Left Turns



Sight Distance For
Crossing maneuver



City of Casselberry
Beautification Partner

**DEPARTMENT OF
TRANSPORTATION**



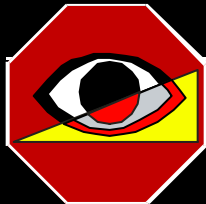
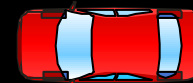
Minimum Stopping Sight Distance

**Operating
Speed (mph) (feet)**

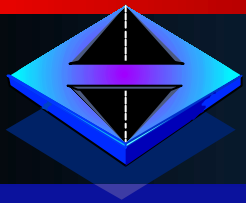
35 250

45 350

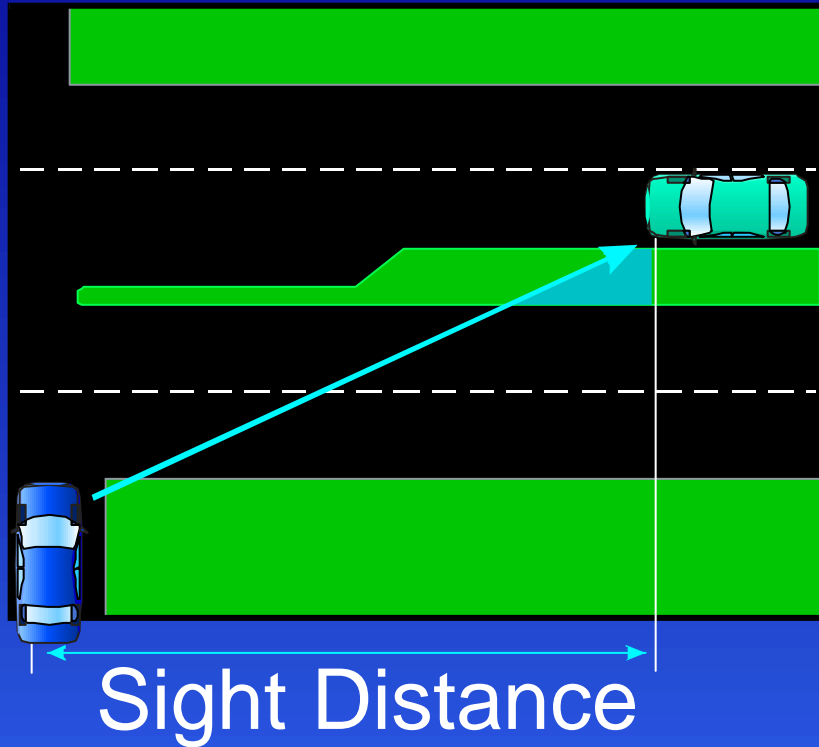
55 476



**STOPPING
SIGHT DISTANCE**

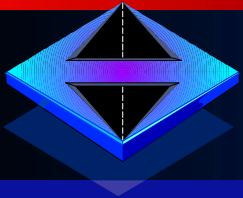


Right and Left Turn Sight Distance

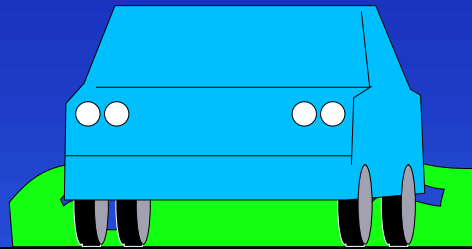


Source: Standard Index #546

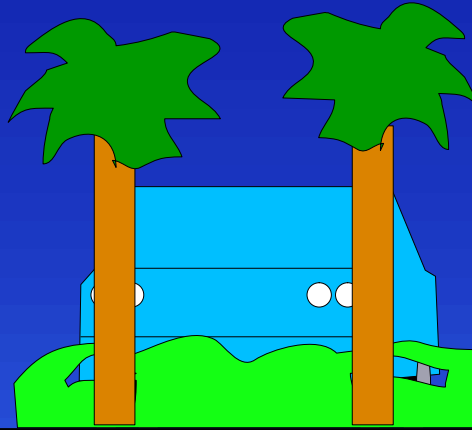
Design Speed	
Speed (mph)	Sight Distance at Intersection
35	470 ft
40	580
45	710
50	840
55	990
60	1,150



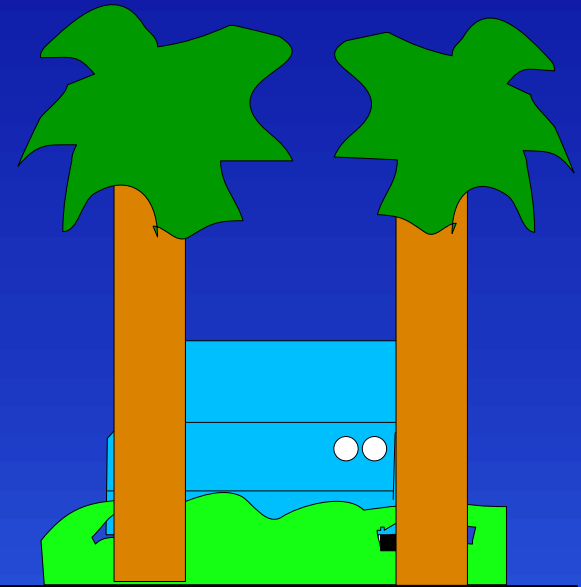
Area Size of Vehicle



Two 6" caliber trees



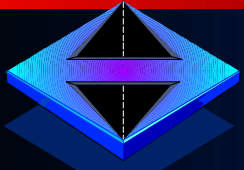
Two 11" caliber trees



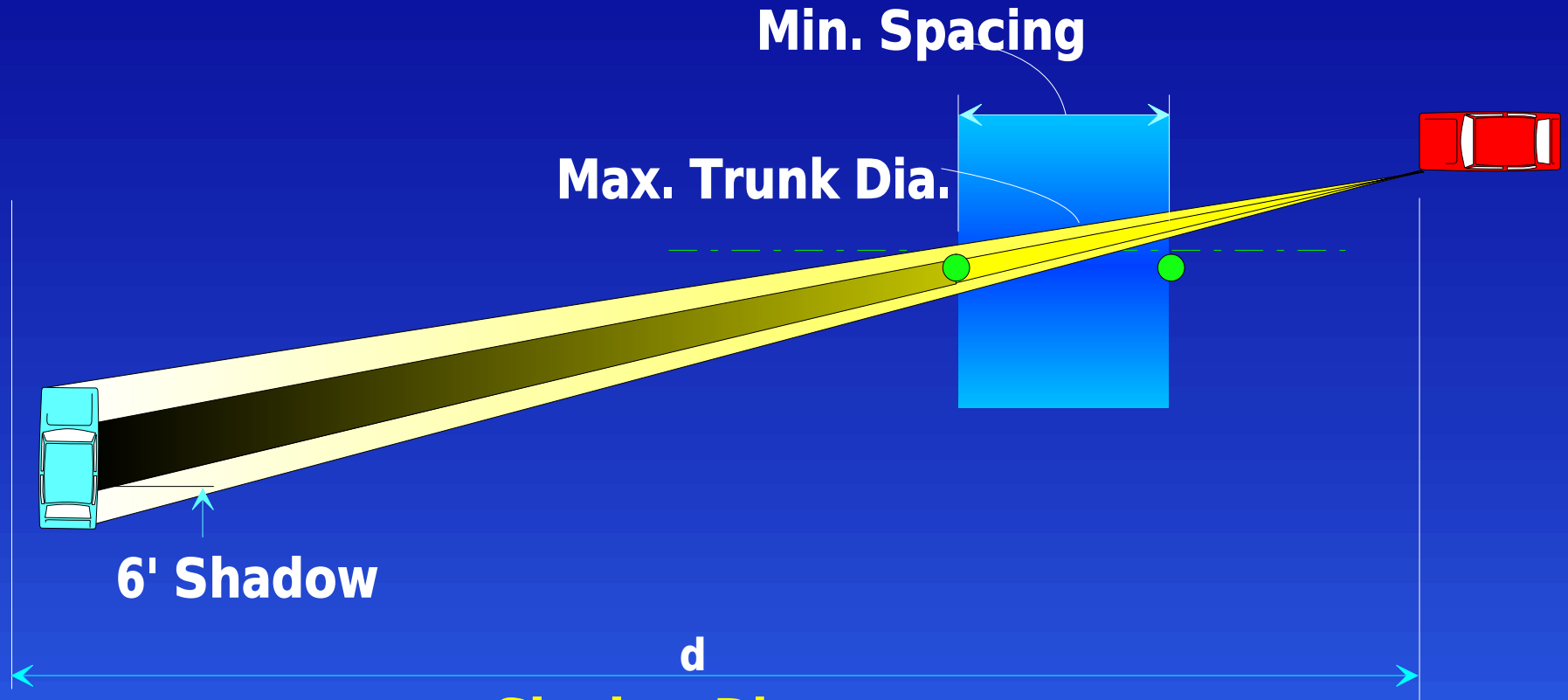
Driver can see 50% of the vehicle

top of ground cover
(12" above top of curb)

Index No. 546 and S
45 MPH



Shadow Diagram



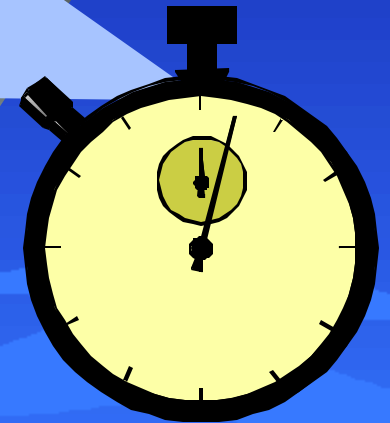
Shadow Diagram
Setting Max. Caliper and Min. Spacing

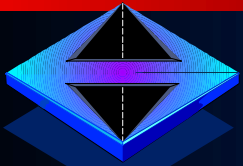




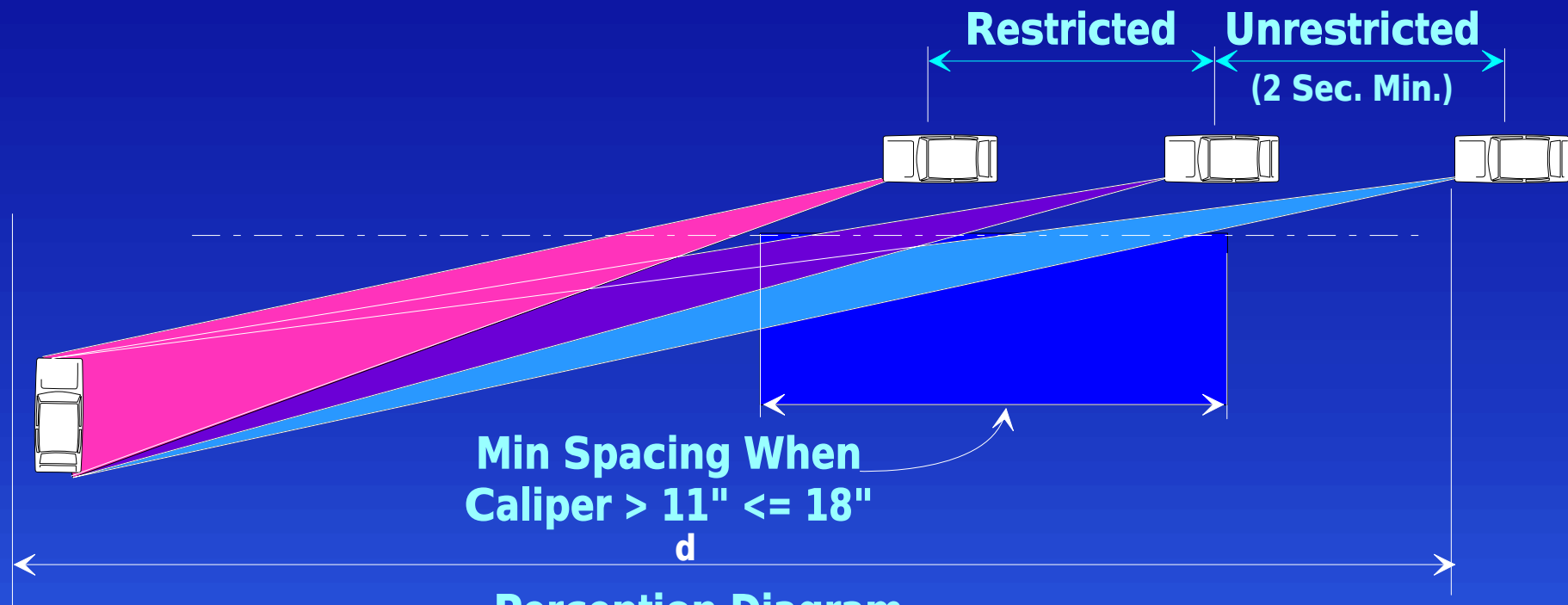
Time of Visibility

Where visibility is blocked
by over 50%, the Department
will allow for **2 seconds**
unobstructed visibility.

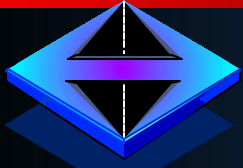




Setting Sabal Palm Spacing



Perception Diagram
Setting Sabal Palm (State Tree) Spacing

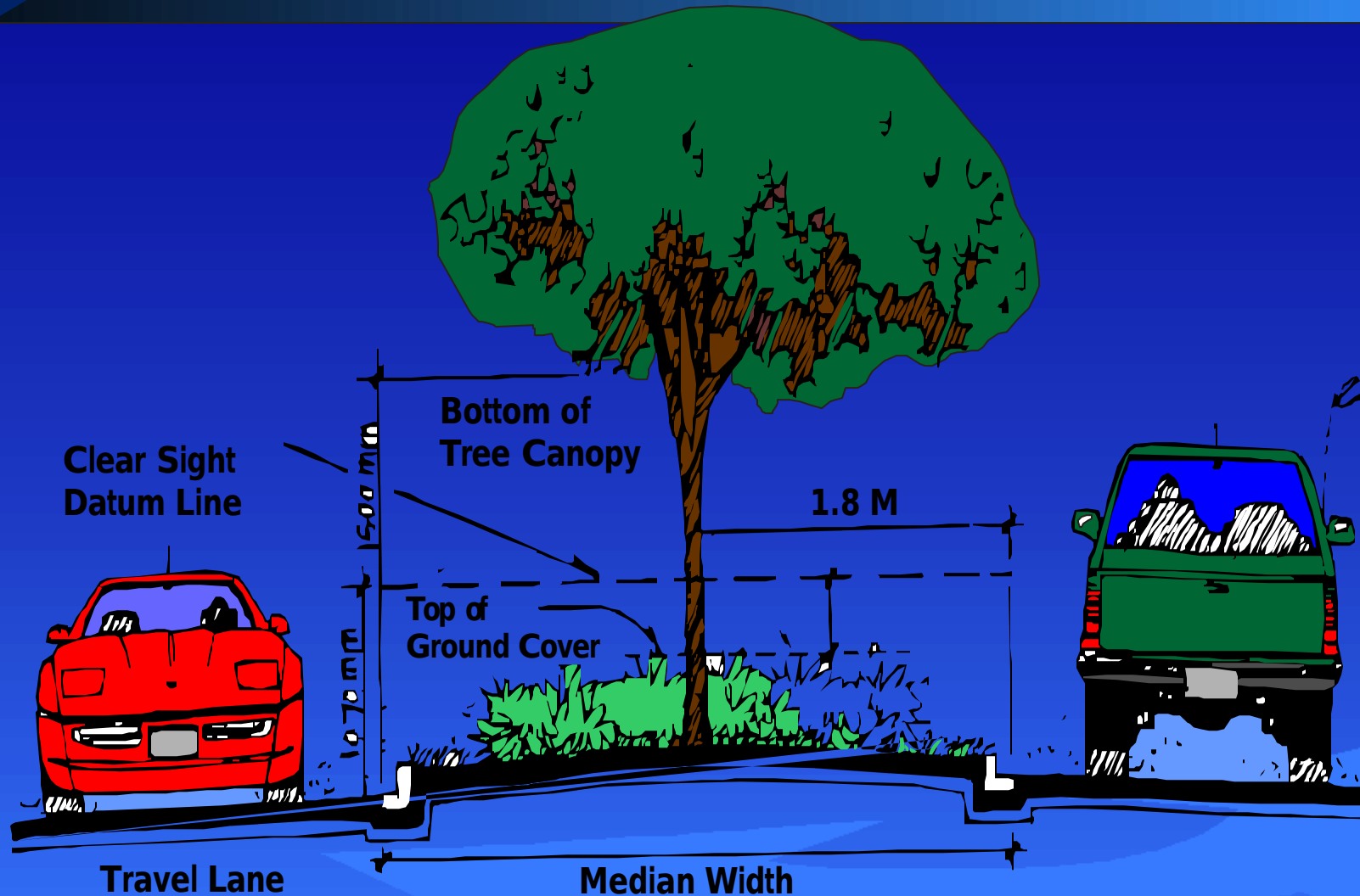


Median Tree Spacing

Speed (mph)	35		45	
Maximum Caliper (Diameter) [Within Limits of Sight Window] (mm)	> 4" < or = 11"	>11" < or = 18"	> 4" < or = 11"	>11" < or = 18"
Minimum Spacing [c. to c. Of Trunk] (ft)	27	108	40	146



Clear Sight Window



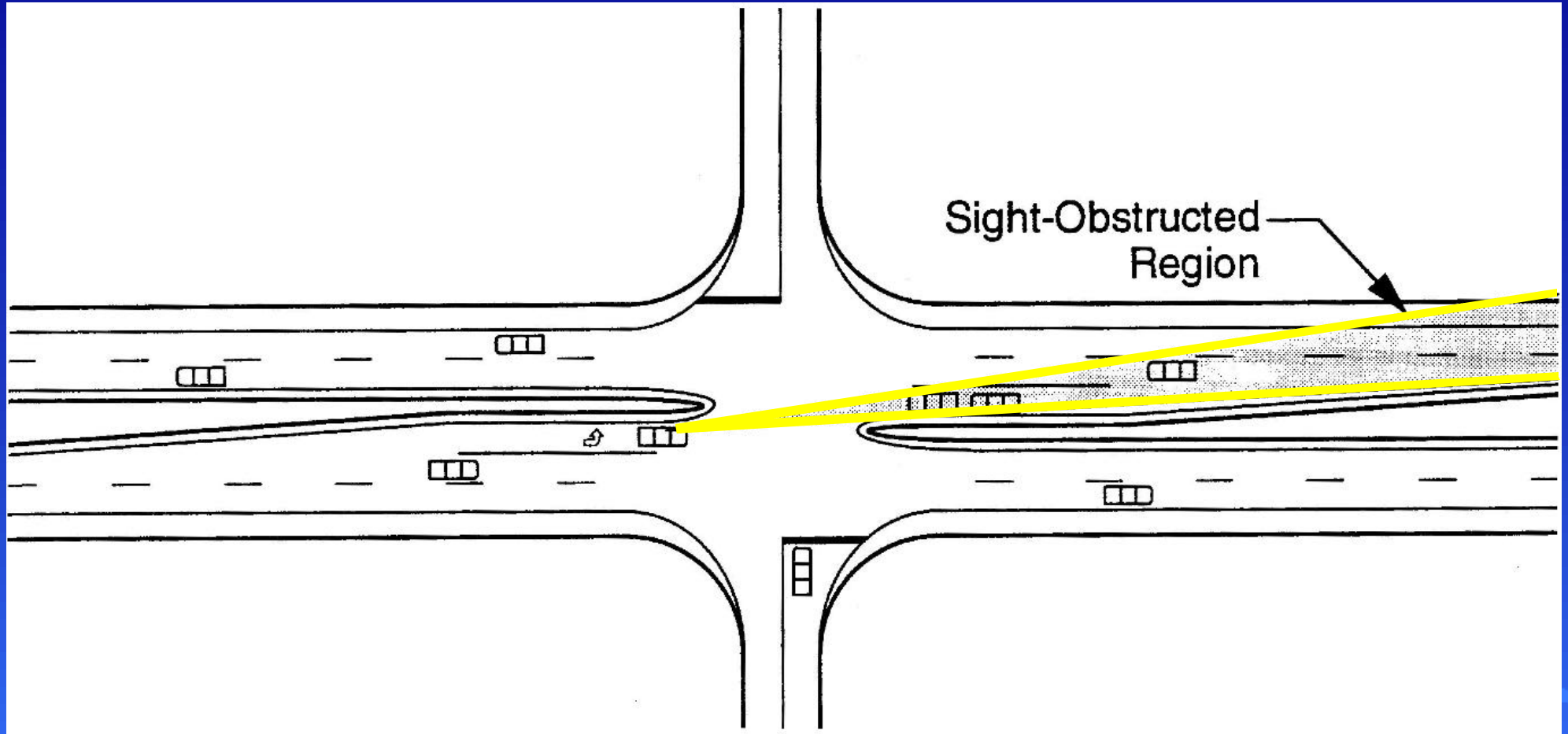


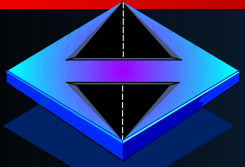


7
KEEP
RIGHT

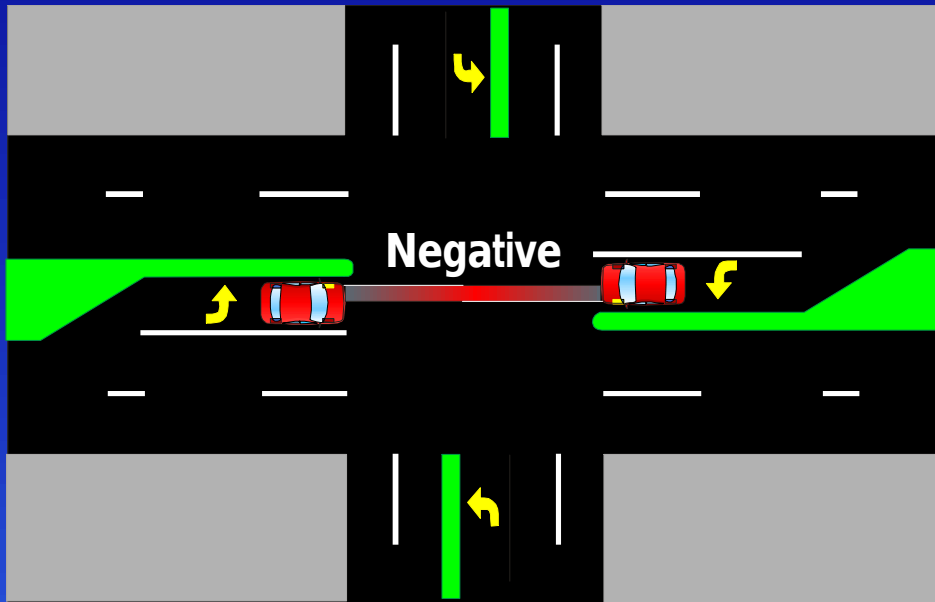


Left Turn Lane Offset

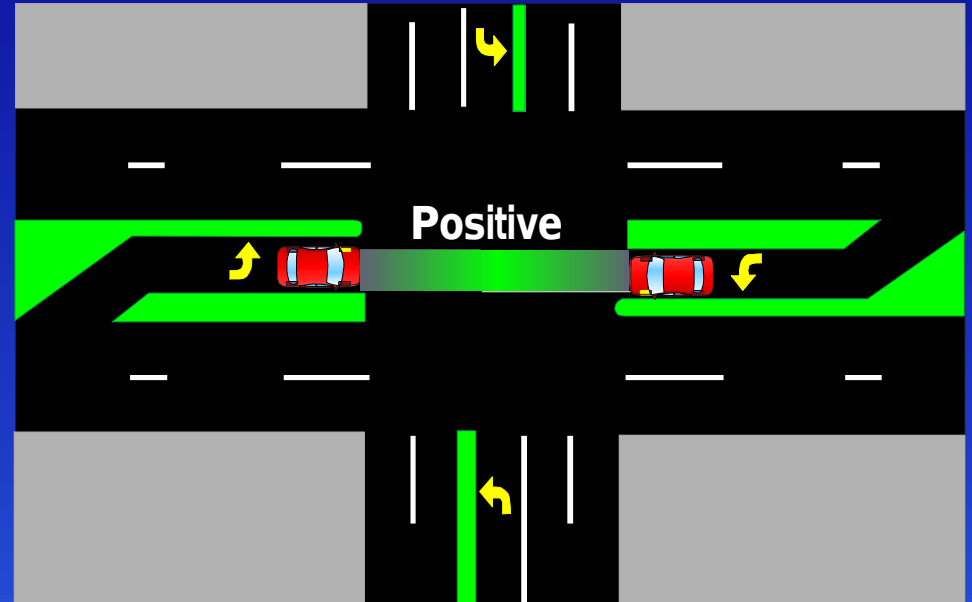




Left Turn Lane Offset



Negative Offset between opposing left-turn lanes



Positive Offset between opposing left-turn lanes



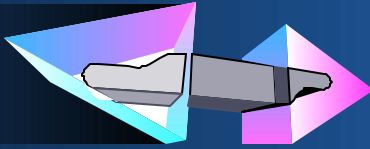




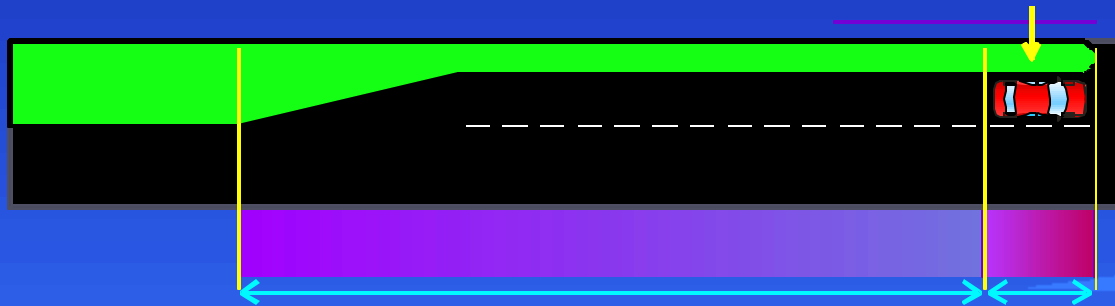


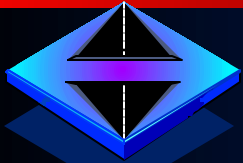
ITE/V. G. Stover, 1987

CHAPTER 4



MEDIAN WIDTH

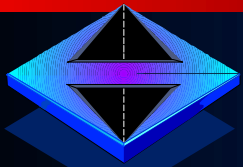




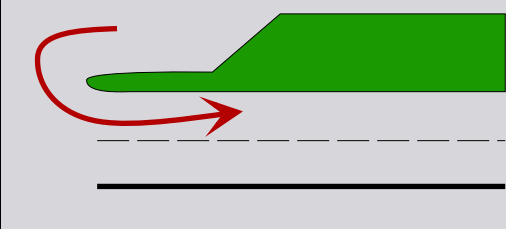
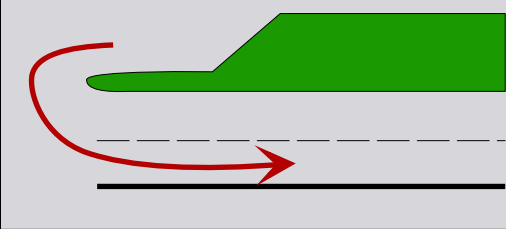
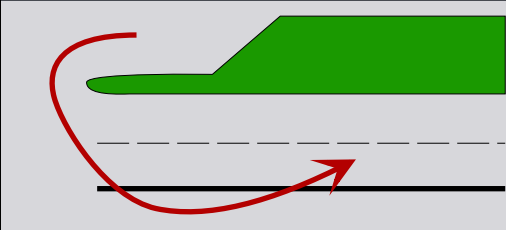
4.1

Function Determines Median Width

- ⇒ Separate opposing traffic streams
- ⇒ Pedestrian refuge
- ⇒ Left-turn to side street
- ⇒ Left-turn out of side street
- ⇒ Crossing vehicles
- ⇒ U-turns
- ⇒ Aesthetics and maintenance



Minimum Width of Median for U-Turns for 4 Lane Roads

	Measures in Feet	Passenger P	Single Unit SU	Semi-Trail WB-50
	Turn Lane to Inner Lane	42	75	83
	Turn Lane to Outer Lane	30	63	71
	Turn Lane to Shoulder	20	53	61

Source: AASHTO Figure IX-67 (with added 12 ft for turn lane width)



Summary of Standards and Recommendations

Minimum	40 mph or less	15.5 feet	Reconstruction Projects
Minimum	45 mph	19.5 feet	
Minimum	55 mph or less	22 feet	
Guidance from Plans Preparation Manual	55 mph or greater	40 feet	
Recommended	4 lane highways	30 feet for single lefts 42 feet for dual lefts	
Recommended	6 lane highways	22 feet for single lefts 34 feet for dual lefts	

**spy
shops**
INTERNATIONAL, INC.
**SECURITY
SUPERSTORES**

COMPUTER
NCE
77

OPEN

**ALLIED
KITCHEN
& BATH**

**KITCHEN
& BATH
ENCLOSURE
ALLIED**

COASTAL PLUMBING
24 hour emergency service
1-566-2230



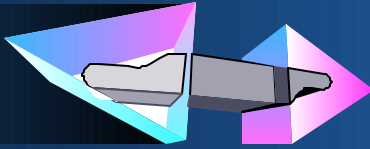




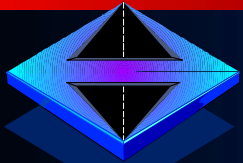




CHAPTER 5



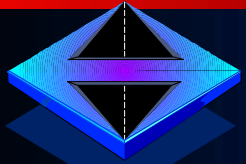
SPECIAL U-TURN CONSIDERATIONS



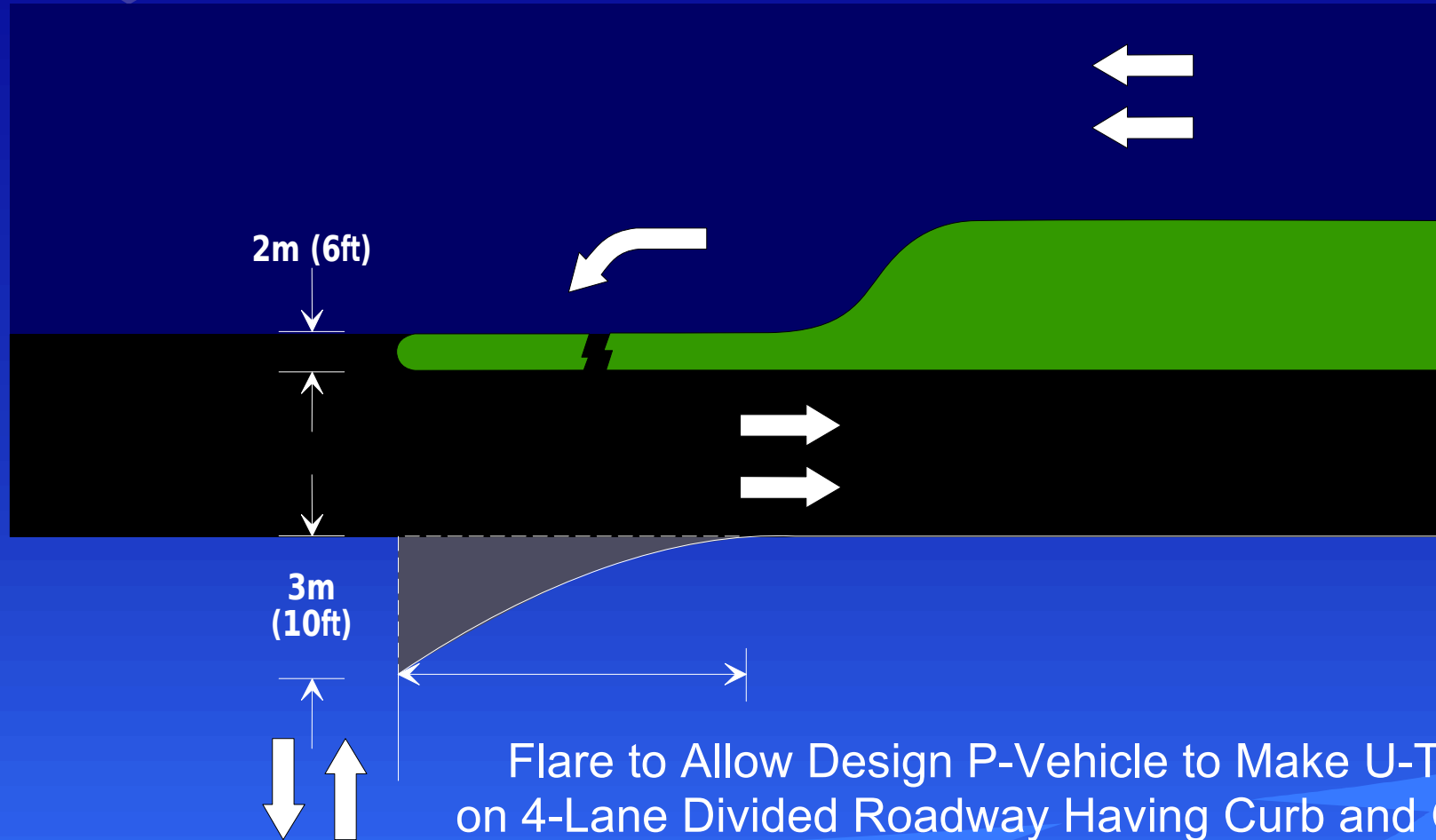
Minimum Width of Median for U-Turns for 4 Lane Roads

	Measures in Feet	Passenger P	Single Unit SU	Semi-Trail WB-50
	Turn Lane to Inner Lane	42	75	83
	Turn Lane to Outer Lane	30	63	71
	Turn Lane to Shoulder	20	53	61

Source: AASHTO Figure IX-67 (with added 12 ft for turn lane width)

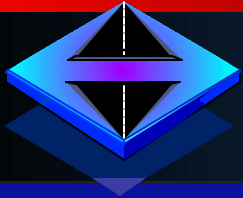


U-Turn Flare

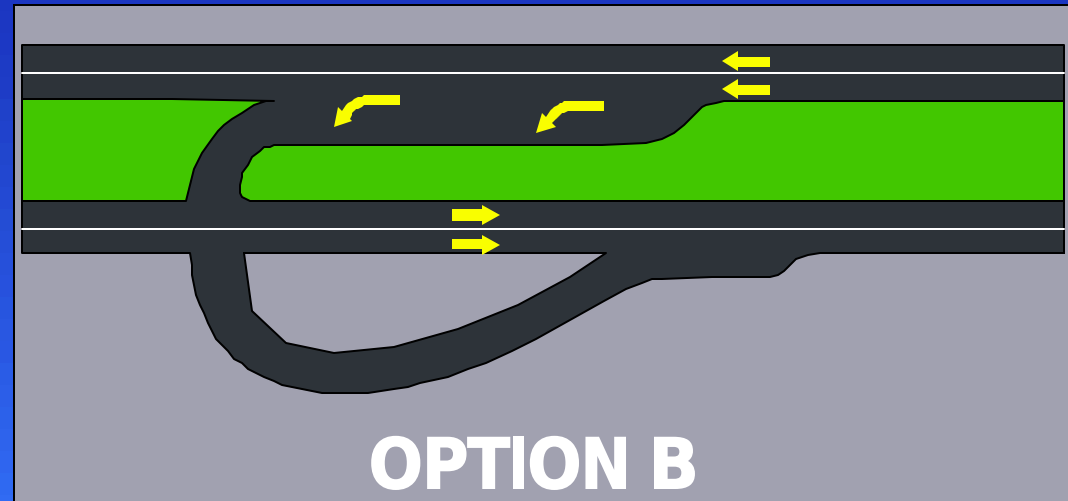
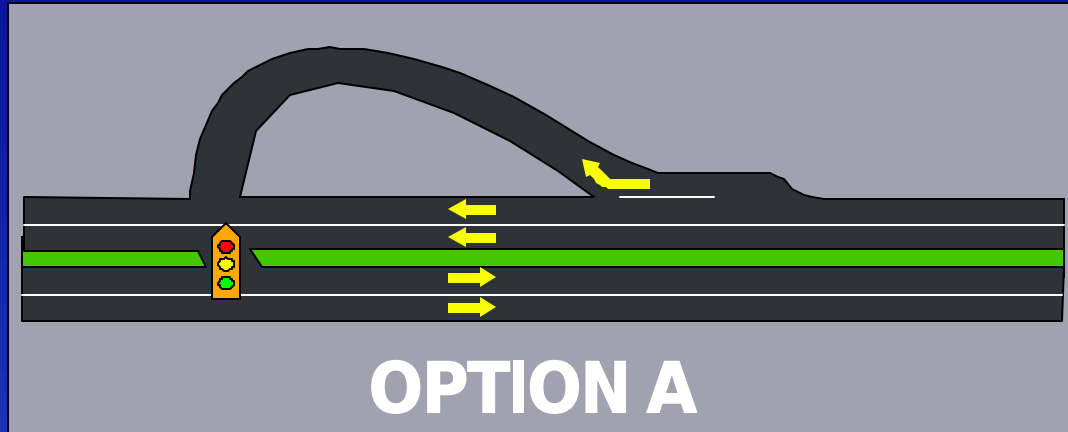


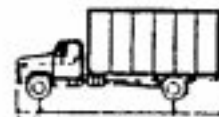
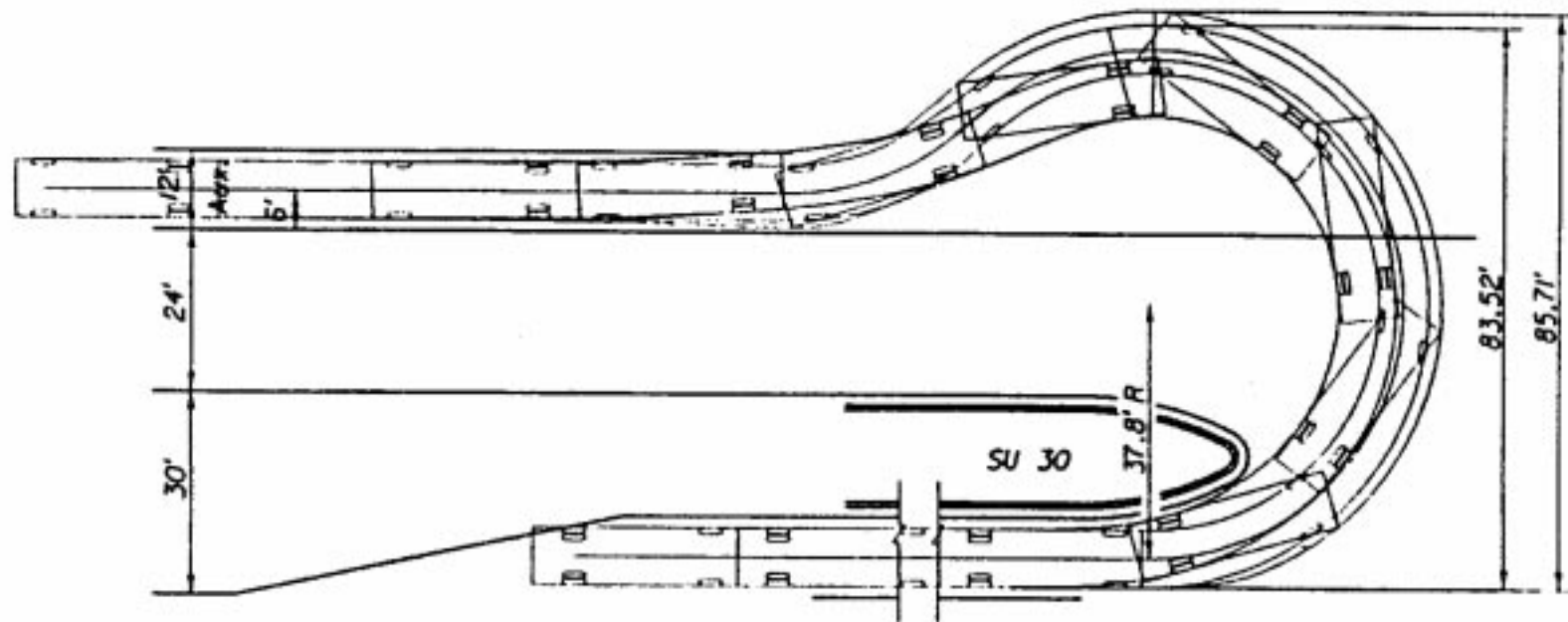


ADOPT A
LITTER CO
HORSE LOOK
VERO BEACH

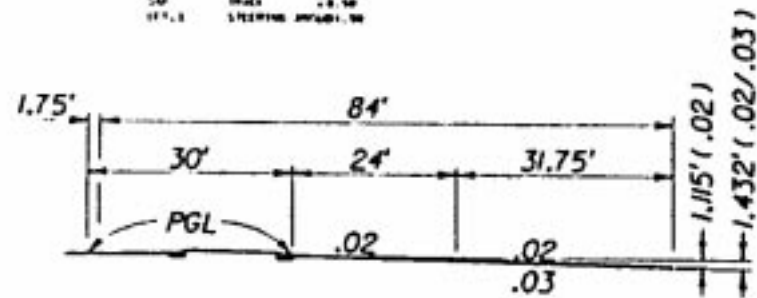


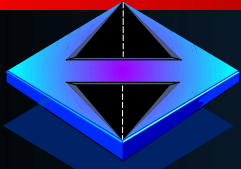
U-Turns Design for Large Vehicles





SU WIDTH 8.50
 12' 0" TRACK 8.50
 STEERING 1.00

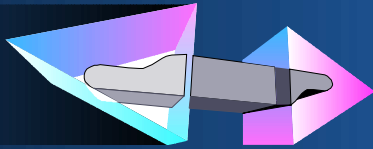




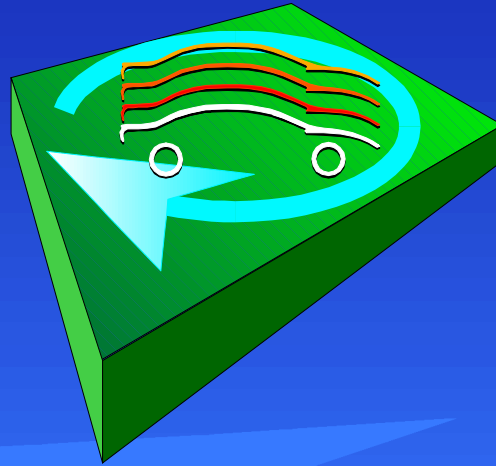
AASHTO Stopping Sight Distance (Wet Pavements)

Design Speed (mph)	Feet
35	250
40	325
45	400
50	475
55	550

CHAPTER 6

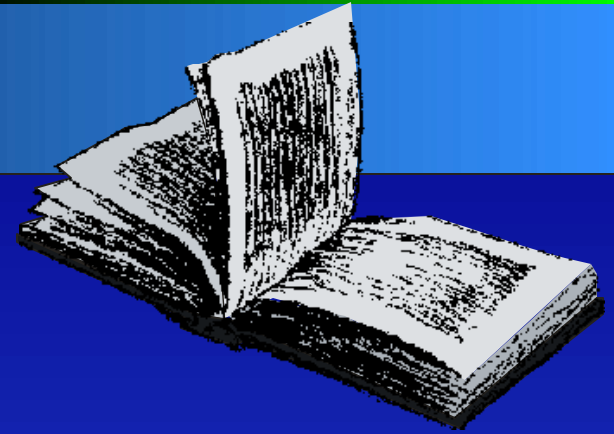


WHERE THE TURNING VEHICLE GOES





Important Point

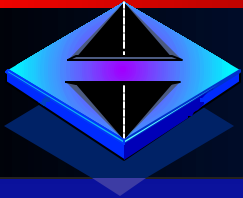


Radius returns are needed anytime a driveway or side street is served by a median opening.

Source:

Standard Index #515

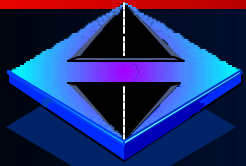




6.1 What to Look For

Things to look for:

- ⇒ Proximity to other access connections and median openings
- ⇒ Driveway profile and grade
- ⇒ Curb return radius and throat width
- ⇒ Throat length (distance before first conflict)
- ⇒ Queue storage
- ⇒ Traffic control



Internal Site Design

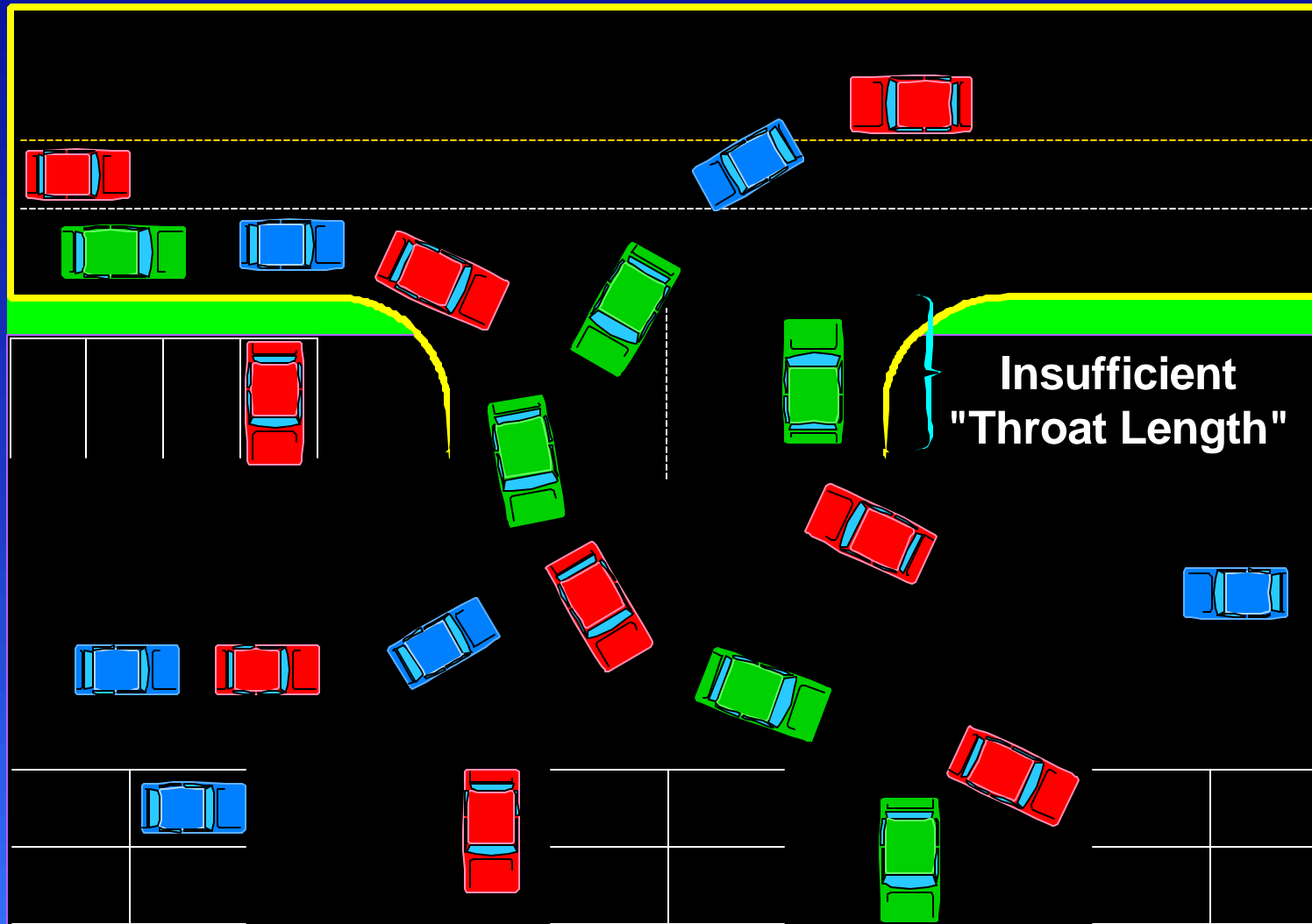
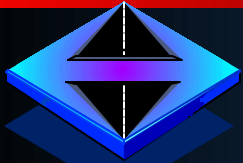


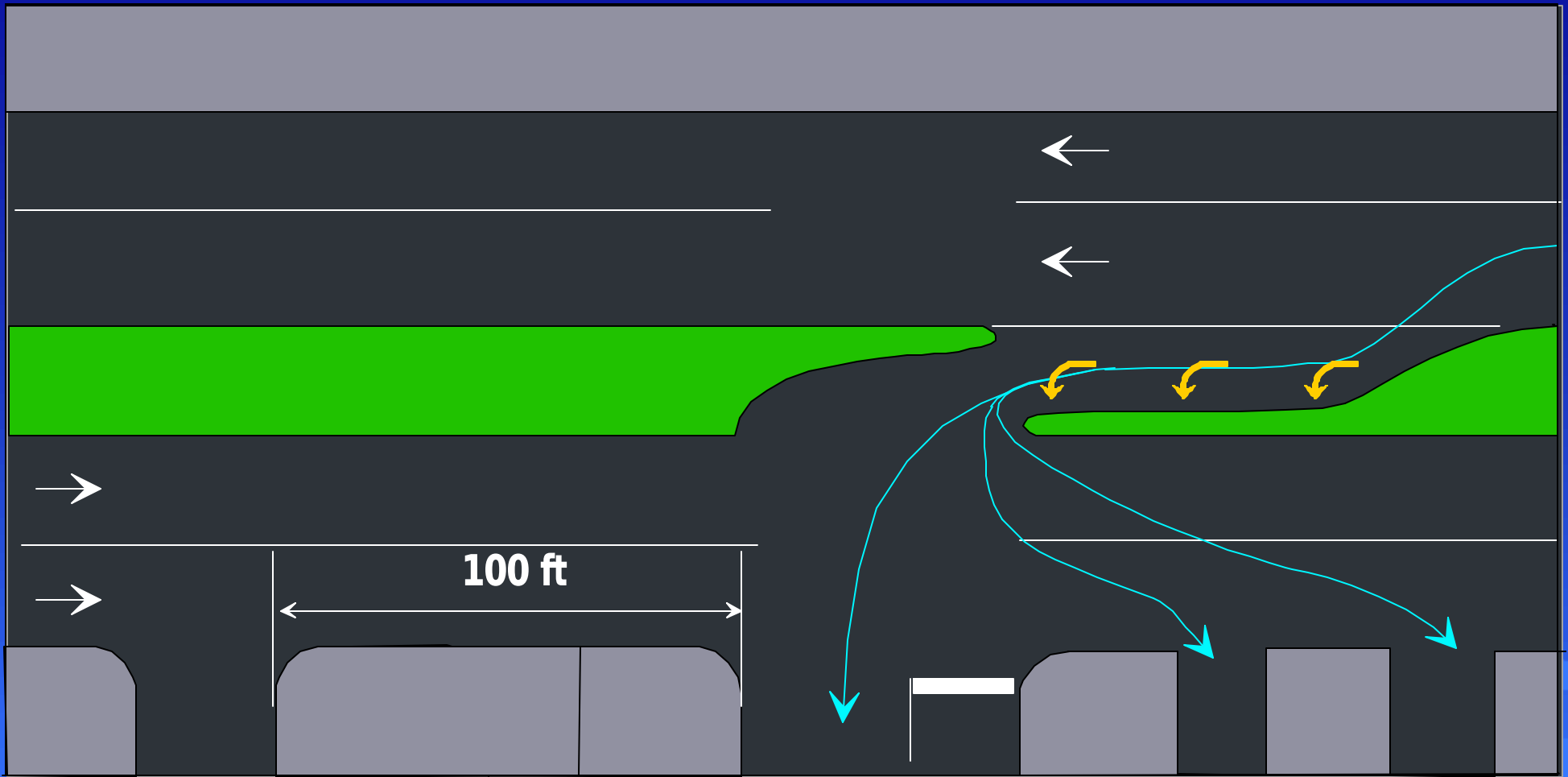


Diagram illustrating a vehicle merging into traffic. A green car is merging from a side road into a main road with red cars. A blue car is approaching from the main road. A double-headed arrow labeled "Throat Length" indicates the distance between the green car and the blue car.

What do you think of the sidewalk?



Entry Maneuvers





ROBERT BURKE/Tribune photo

The project for landscaping the median at Progress Village was made possible by many people who donated money and time to provide plants.

A HAPPY MEDIAN

The county's beautification project has blossomed into a successful venture.

By WENQIANG LI
Tribune Staff Writer

TAMPA — In David Fountain's Suburbs Springs office, nestled in a wooded setting on the Hillsborough River, hangs a dotted map of the landscape in unincorporated Hillsborough County.

Each marked area, in shades of blue or green, represents a median or roadside beautification project.

That's how Fountain, administrative assistant of the county's Parks and Recreation Department, keeps track of the county's beautification progress.

The map shows 18 landscaped projects, either completed or under way, scattered over the spots corresponding to Brandon, Riverview, Progress Village, Apollo Beach, Town 'N Country and Carrollwood, among others.

The projects add up to 27 miles, which accounts for only 1 percent of 2,700 miles of county roadways and medians. But Fountain notes the tiny percentage actually represents a big step forward in the county's highway beautification efforts since 1991.

"Three years ago, the county didn't have a systematic beautification program," he said.

The organized beautification process didn't begin until September 1991, when county commissioners voted to allocate \$50,000 per mile for landscaping future street construction or expansion.

For instance, a mile-long road project that costs \$5 million automatically includes \$50,000, or 1 percent of the total.



TODD L. CHAPMAN/Tribune photo

Colorful, lush landscaping covers the medians along Busch Boulevard